

SIR JOHN S. D. THOMPSON, K. C. M. G.

OF THE

TRIBUNAL OF ARBITRATION.









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Bering Sea Tribunal of Arbitration

FUR-SEAL ARBITRATION.

APPENDIX

TO

ARGUMENT OF THE UNITED STATES

BEFORE THE

TRIBUNAL OF ARBITRATION

CONVENED AT PARIS;

CONTAINING

THE TESTIMONY SUBMITTED IN VOLUME II OF THE APPENDIX
TO THE CASE OF THE UNITED STATES,

TOGETHER WITH

EXTRACTS FROM THE ARTICLE BY DR. ALLEN, LETTERS
FROM NATURALISTS, OFFICIAL REPORTS, ETC., IN
VOLUME I, AND FROM THE JOINT REPORT OF
THE BERING SEA COMMISSION AND THE
REPORT OF THE UNITED STATES
COMMISSIONERS, ARRANGED
BY SUBJECTS.



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17. 12.

WASHINGTON, D. C.:
GOVERNMENT PRINTING OFFICE.
1893.

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THE DEONENTS, THEIR POSITIONS, OCCUPATIONS, AND EXPERIENCE.

Charles A. Abbey, being duly sworn, deposes and says: I am 51 years of age, and am captain in the Revenue Marine of the United States, and have been in the service for nearly twenty-eight years. From June, 1886, until the latter part of August, 1886, I was in charge of the revenue steamer *Corwin*, cruising in Bering Sea, for the purpose of protecting seal life, the fur-seal industry, and the Government interests in Alaska generally. *C. A. Abbey, p. 185.*

Charles Adair, having been duly sworn, deposes and says: I am by occupation a sailor; I reside in Port Townsend. I have made two sealing voyages in the North Pacific and Bering Sea. In 1889 I went on the American schooner *James G. Swan*, and in 1890 in the British schooner *Rosie Olsen*, of which Capt. McLean was master. *Chas. Adair, p. 400.*

George R. Adams, having been duly sworn, deposes and says: I am a citizen of the United States, and a resident of Paso Robles, Cal., where I am employed in general business. I first went to Alaska in the bark *Golden Gate*, Capt. Seammon, June 10, 1865, on the American telegraph expedition, and explored the country about Bering Sea from St. Michaels north, returning in September, 1867. In the spring of 1868 I returned to Alaska soon after its purchase by the United States. I went for the late John Parrott, of San Francisco, direct to the islands of St. Paul and St. George. We were the first parties who went to those islands after the purchase, and commenced taking seals about the 1st of July. *G. R. Adams, p. 157.*

Akatoo, being duly sworn, deposes and says: I was born at Yakutat about thirty years ago; am a hunter by occupation, hunting sea otter and bear. *Akatoo, p. 237.*

J. C. S. Akerly, PH. B., M. D., having been duly sworn, deposes and says: I am a graduate of the University of California, 1882, and a graduate of the Cooper Medical College, 1885. From June to August 18, 1891, I was surgeon of the Revenue Marine steamer *Corwin*. From August 18 to November 24, 1891, I was resident physician on St. Paul Island, one of the Pribilof or seal islands. I am at present a practicing physician at Oakland, Cal. During my stay on the islands I made frequent visits to the different seal rookeries. *J. C. S. Akerly, p. 95.*

Personally appears before me A. B. Alexander, who, being duly sworn, deposes and says: I am 37 years of age, a citizen of Gloucester, Mass., and have been for six years and still am an employé of the U. S. Fish Commission as a fishery expert, being detailed for service on the Fish Commission steamer *Albatross*. On March 29 I was detailed for temporary service on the United States revenue steamer *Corwin*, and am still so engaged. During my service on the *Corwin* I have cruised as far north as Yakutat Bay. I have visited, with but few exceptions, all the ports and native villages from Dixons Entrance to and including Yakutat Bay. I have personally conversed with the Indians, owners of vessels, seal hunters, both native and white, and others engaged in the sealing business. I have been in canoes and boats, and personally observed the taking of seals by all methods practiced on this coast, and have thus sought to familiarize myself in every way with the aquatic habits of the seal, their habitat, method of capture, and all matters of interest connected with the sealing industry.

John Alexandroff and Feodor Barastoff, being duly sworn, depose and say: We are respectively the priest and chief of the natives at the settlement known as Soldovoi, on Cooks Inlet, Alaska, and have lived in the immediate vicinity all our lives. We are by occupation hunters of all fur-bearing animals, excepting the fur-seal. We have had no experience in hunting fur-seals, because we are informed that it is unlawful. Our occupation does not take us below the entrance to Cooks Inlet, in a line from Cape Elizabeth on the peninsula to Cape Douglass on the mainland opposite.

Watson C. Allis, having been duly sworn, deposes and says: I am 36 years old, an American citizen, residing in San Francisco, Cal., and by occupation an agent of the Fairbanks Seal Company, engaged in selling and setting up seals. In the summer of 1882, and again from the spring of 1887 to the fall of 1889, I was assistant agent of the Alaska Commercial Company upon St. Paul Island, and worked four sealing seasons in charge of a gang of natives engaged in seal killing.

Nicholas William Andersen, a resident of Afognak, being duly sworn, deposed and said: I have been in Alaska twenty years; I have been a hunter eighteen years; I have never hunted seals; I have been along the coast from Prince William Sound to Sennak Islands

Andrew Anderson, being duly sworn, deposes and saith: I reside at St. Paul, Kadiak Island, Alaska Territory. I am a sea-otter hunter by occupation, and am now master of a hunting schooner. While engaged in hunting during the past eighteen years I have killed more or less fur seals.

C. H. Anderson, a citizen of the United States of America, 48 years of age, being duly sworn, deposes and says: I am a master-mariner by occupation, and reside in San Francisco, Cal. I have been sailing in Alaskan waters since 1880. For seven years I cruised in the Unalaska dis-

trict, which embraces the Shumagin and Sannak Islands, the Aleutian chain, the Pribilofs, Bristol Bay, and the eastern coast of Bering Sea as far as St. Michaels. I have made four or five trips from Unalaska to Attn and return, and eight or nine between Atka and Unalaska, chiefly in spring and fall of the year.

Peter Anderson, being duly sworn, deposes and says: I reside in Victoria, British Columbia; am by occupation a seaman and hunter; I have been engaged in the last three years in taking seal in the North Pacific Ocean and Bering Sea in capacity of boat-steerer. The vessels I was employed on are as follows: *Black Diamond*, *Ariel*, and *Umbrina*, all British schooners. *Peter Anderson, p. 313.*

H. Andricius, being duly sworn, deposes and says: My age is 21 years; occupation, seaman; and live in Victoria, British Columbia. I first sailed in 1891 in the vessel *N. E. Paint*, Bisit, master, as boat-steerer. *H. Andricius, p. 314.*

Anna-tlas, chief of the Takou tribe of Indians, being duly sworn, deposes and says: Have always been chief of this tribe. Have never been seal-hunting in my life. Myself and tribe go to the coast as far as Wrangel and trade with the Killisnoo Indians for oil. *Anna-tlas, p. 254.*

Nicoli Apokchee, Peter Abankook, Stephan Langwalic, Iyfym Monin, Denis Malzoff, Wasryon Ofkew, Pavel Ofkew, and Pavel Ringhook, being duly sworn, depose and say: That we are natives of Alaska, and reside at the settlement known as Fort Alexander, on Cooks Inlet, Alaska Territory. We are, by occupation, hunters of fur-bearing animals, excepting the fur-seal, and have been engaged in this pursuit the greater part of our lives, chiefly in this region. *Nicoli Apokchee et al, p. 224.*

John Armstrong, having been duly sworn, deposes and says: I am 50 years old, and reside in San Francisco. I was employed in Alaska service in connection with the seal fisheries from 1868 to 1886, inclusive. During the first eight years of the time I was chief engineer of the steamer plying between San Francisco and the seal islands and other Alaska ports, and from 1877 to 1886, inclusive, as agent of the Alaska Commercial Company, living almost constantly for the whole ten years upon St. Paul Island. I always assisted in the seal-killing, and, in common with all other employés on the islands, made the seals my study and care. Everyone connected with the business, from the superintendent to the humblest laborer, is, when at the islands, keenly alive to every occurrence relating to the herd. There is nothing else but seals to attract our attention when there, and the most trivial incidents in regard to the rookeries, as well as the more serious ones, are noted and discussed. *John Armstrong, p. 1.*

Kerrick Artomanoff, being duly sworn, deposes and says: I am a native Aleut, and reside on St. Paul Island, Pribilof Group, Alaska; I was born at Northeast Point, on St. Paul Island, and am 67 years of age. I have worked on the sealing grounds for the last fifty years, and am *Kerrick Artomanoff, p. 99.*

well acquainted with the methods adopted by the Russian and American Governments in taking of fur-seal skins and in protecting and preserving the herds on the island. In 1870, when the Alaska Commercial Company obtained the lease of the islands, I was made chief, and held the position for seventeen years.

It was my duty as chief to take charge of and conduct the drives with my people from the hauling to the killing grounds.

Atenas Koo, being duly sworn, deposes and says: I am an old man. Was born in Yakutat and am a member of the Yakutat tribe of Indians. I have hunted all my life.

Atenas-Koo, p. 237.

Charles Avery, a resident of St. Paul, Kadiak, Alaska, being duly sworn, deposed and said: I am captain of a sealing schooner; have been six years in Alaska; have been hunting seals three years.

Chas. Avery, p. 218.

Adam Ayonkee, being duly sworn, deposes and says: I am about 60 years old; born at and reside in Sitka. Am by occupation a hunter. Hunt seal in summer and deer in winter ever since I was a small boy.

Adam Ayonkee, p. 255.

Q. What is your name, age, residence, and occupation?—A. My name is George Ball; age, 42; residence at present, San Francisco, Cal.; occupation, master and hunter of seals.

Geo. Ball, p. 481.

Q. Are you a citizen of the United States?—A. I am.

Q. What State are you a resident of?—A. I am a native of Connecticut and a resident of California for the last twenty-seven years.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea, and for how long?—A. I have been engaged in sealing in the Pacific and Bering Sea off and on for a number of years past; constantly during the sealing season for the last few years.

George Bantle, having been duly sworn, deposes and says: My age is 53. I reside in San Francisco. I am a packer and sorter of raw fur skins, and have been engaged in that occupation for the last twenty years. My calling has made me a judge of raw seal skins, as I have handled in the last ten or twelve years from 10,000 to 15,000 annually. I can tell by examining a skin whether it was caught in season, and whether it was caught on the Russian side or on the American side.

Geo. Bantle, p. 508.

I, Milton Barnes, being duly sworn according to law, depose and say as follows: I am a citizen of the United States, and when at home reside near Columbus, Ohio. Have been temporarily stationed during the last year on the Island of St. Paul, one of the fur-seal or Pribilof Group in Bering Sea, as a special employé of the United States Treasury Department on said island.

Milton Barnes, p. 101.

Johnny Baronovitch, being duly sworn, deposes and says: I was born at Kasan and have lived here all my life. My business is that of hunting and fishing. Have hunted fur-seal in a canoe in May off the Prince of Wales Island.

Johnny Baronovitch, p. 276.

C. Francis Bates, being duly sworn, says: I am a member of the firm of Martin Bates, jr., & Co., and am the person described in and who verified an affidavit on the 22d day of June, 1892, relating to the value of the industry of manufacturing seal-skin articles in the United States, and other matters. *C. Francis Bates, p. 508.*

C. Francis Bates, being duly sworn, says: I am 67 years of age, a citizen of the United States, and a resident of the city of New York. Early in this century my father established a wholesale fur business in this city, and to this business I have succeeded. I have been engaged in it for the past fifty years. It is now carried on under the name of Martin Bates, jr., & Co. For many years we have been large purchasers of Alaska (or Pribilof Island) fur-seal skins, having bought in London and brought to this country, between the years 1879 and 1891, 71,904 such skins. I am familiar with the value and extent of the industry of manufacturing articles of fur-seal skins in this country, my house having until very recently been largely interested in it. *C. Francis Bates, p. 528.*

Maurice Bates, being duly sworn, deposes and says: I am 40 years old; was born in British Columbia, and now reside in New Metlakahla. I am a hunter by occupation; have hunted fur-seal in a canoe ever since I was old enough. My hunting lodge is on Dundas Island, and I hunt in Dixons Entrance and off Prince of Wales Island. *Maurice Bates, p. 276.*

Charles J. Behlow, being duly sworn, deposes and says: I reside in the city and county of San Francisco, State of California; I am by occupation a fur merchant, and have been so engaged permanently for the last thirty-five years, during which time I have been constantly handling large quantities of raw fur-seal skins from many different localities, and I can readily distinguish the respective quality, size, age, and sex. *Chas. J. Behlow, p. 403.*

William Bendt, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of saloon keeper and lodging-house keeper. I have been engaged in fitting out sealing vessels and sending them to the North Pacific and Bering Sea for eight or nine years. I fitted out the schooners *Fowler, Laura, C. H. White*, and others. I am now the managing owner of the schooner *Bowhead*. *Wm. Bendt, p. 404.*

Wilton C. Bennett, being duly sworn, deposes and says: I was born at Neah Bay. I am 32 years old, and have been a seal hunter all my life in the North Pacific Ocean and one season in Bering Sea, always in the capacity of hunter. *Wilton C. Bennett, p. 356.*

Edward Benson, being duly sworn, deposes and says: I am 34 years old; was born in British Columbia; and now reside at New Metlakahla. I have been engaged in hunting five years. Have hunted seals in canoes. *Edward Benson, p. 277.*

Martin Benson, being duly sworn, deposes and says: I have been engaged in sealing five years, as master of the
Martin Benson, p. 405. James G. Scan and the Leo in Bering Sea and North Pacific Ocean.

H. S. Bevington, M. A., being duly sworn, doth depose and say: That he is 40 years of age, and a subject of Her Britannic Majesty, and is the head of the firm of Bevington & Morris, doing business as fur merchants and manufacturers at 28 Canon street, in the city of London. That his said firm was founded in the year 1726, and has been continued in the same family during the whole of these years down to the present time, and has been engaged during the whole of the period since 1726 in the same business, dealing in furs and leather. That deponent has been in the business ever since the year 1873. During the whole of the period since that date his said firm have been in the habit of buying fur-seal skins, and he knows from his general knowledge of the business that prior to that time they were in the habit of buying seal skins ever since they became an article of commerce. That deponent has personally handled many thousands of skins of the fur seal, and by reason of that fact and of his experience in his business has a general knowledge of the history of the fur-seal, skin business, and a general and precise knowledge of the several kinds of skins which now, and for many years last past, have come upon the London market.

John G. Blair, of San Francisco, having been duly sworn, deposes and says: I am 57 years old, and an American citizen, and am now and have been for the past fourteen years, until recently, master of the schooner *Leon*, formerly in the service of Hutchinson, Cole, Philips & Co., and now employed by the Russian Seal-skin Company. During all this time I have been constantly engaged in the fur-sealing industry, and am familiar with the habits of these animals both on the land and in the water. I was in charge of and attended to the killing of seals upon Robben Island for the lessees from 1878 to 1885, inclusive, taking from 1,000 to 4,000 seals per annum in each of these years for their skins, and have visited the islands in the *Leon* every year except two since 1885 to the present date. During the two years excepted I was sealing on the Commander Islands.

Bernhardt Bleidner, being duly sworn, deposes and says: I reside at Victoria, British Columbia; am 32 years of age; my occupation, seaman. In 1887 I shipped on the schooner *Challenge*, Jones, master, as boat puller.
 * * * In January, 1889, I again shipped from Victoria, British Columbia, in the schooner *Walter Rich*, Siewart, master.

Niels Bonde, being duly sworn, deposes and says: I am 24 years of age; residence, Victoria, British Columbia; occupation, seaman. I went sealing as deck hand in the British schooner *Kate*, Capt. Moss, master, in 1887. * * * In 1888 I left Victoria on the 11th of April as mate and interpreter on the British schooner *Arannah*, H. F. Siewart, master. * * * I left Victoria on the 28th of May, 1889, in the British schooner *Kate* as deck hand. * * * In 1890 I left Victoria

on the 17th of January in the British schooner *Pioneer*, Morgan, master. I shipped as a deck hand.

We, the undersigned, natives, residents of St. Paul Island, who have for a number of years been engaged in the business of sealing on these islands, having been present and heard the testimony of Anton Melovodoff and Noen Mandregin, as above given, do hereby concur substantially in their statements.

APOLLON BORUDAKAFFSKY.

AGGIE KUSHIN.

NICOLI KRUKOFF, *Second Chief*.

Bowa-chup, being duly sworn, deposes and says: I am a native Makah Indian, and reside on the reservation at Neah Bay, State of Washington, United States of America, and am about 40 years of age. I have been engaged in seal hunting ever since I was a boy. Until about ten or twelve years ago, I used to seal along the coast in large canoes from 10 to 18 miles from Cape Flattery and in the Straits of San Juan de Fuca. At first I was a paddler, and afterwards I became a spearman.

Bowa-chup, p. 376.

John Andrew Bradley, being duly sworn, deposes and saith: I reside at Coal Point, on Kachekmak Bay, Cook's Inlet, Alaska, and have lived in this immediate vicinity for the past four years. I have traveled extensively along all the Northwest Coast during the past twenty-two years, and am well acquainted with it. I have had no personal practical experience in fur-seal hunting, but at the same time have a fair knowledge of the industry.

J. A. Bradley, p. 227.

Thomas Bradley, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of a seaman. In 1884 I shipped on the *Maggie Ross* as a boat puller for a sealing voyage to the North Pacific and Bering Sea.

Thos. Bradley, p. 406.

William Brennan, being first duly sworn, deposes and says: I am 37 years of age; was born in London; am by occupation a seafaring man; and reside at Seattle, in the State of Washington. I have spent the best years of my life in the close study of the denizens of the sea, including seals and the modes of capturing them, such as seafaring men bestow upon matters in which they are interested participants. I first went to sea in November, 1869, and have been connected with shipping matters for twenty-three years. Passing my examination as second mate in London in 1874, I went to Australia, thence to China and Japan, remaining in Japan several years. * * *

William Brennan, p. 357.

I have since followed the sea as sailing captain, pilot, and quartermaster on vessels sailing out of Victoria, British Columbia.

William Brennan, p. 358.

Henry Brown, being duly sworn, deposes and says: I am 42 years of age, and reside in Victoria, British Columbia. I am by occupation a seaman. On or about February 21, 1890, I shipped as an able seaman, but did service as a boat steerer on the sealing schooner *Minnie*, which cleared

Henry Brown, p. 317.

from Victoria. * * * On January 19, 1891, I shipped at Victoria as an able seaman, and took the boat steerer's billet on the sealing schooner *Mascot*, Lawrence, master. * * * On February 25, 1892, I shipped at Victoria, British Columbia, on the sealing schooner *May Belle*, Smith, master. I shipped as an able seaman, and did service in the sternboat as boat steerer.

Joseph Stanley Brown, being duly sworn, deposes and says: I am 36 years of age; am a citizen of the United States; reside in Mentor, Ohio; am by profession a geologist, and as such am employed in the U.

S. Geological Survey.

In April, 1891, I was ordered by the honorable the Secretary of the Interior, to whose direction the officers of the Geological Survey are subject, to report to the honorable the Secretary of the Treasury personally for special service. This I did, and on the 27th of that month I received from the latter a temporary appointment as special agent.

On May 4 I was given instructions to visit the Pribilof Islands, for the purpose of studying the seal life found thereon, with a view to procuring full and accurate information, not only as to its present general condition, but also more specifically as to any increase or diminution of the seal herd that makes its home upon the islands. I was further instructed, should I find that change had occurred, to inquire carefully into its relative amount and the causes leading thereto. My duties were in no way connected with the administration of the islands, but I was left free to make as exhaustive and comprehensive an examination of seal life on the islands as the time at my disposal would permit.

In accordance with my instructions I proceeded to San Francisco, and on the 27th day of May sailed for Bering Sea on the United States revenue steamer *Rush*. The *Rush* arrived at St. George Island on June 9 and at St. Paul on the following day. I entered immediately upon the work assigned me and continued it interruptedly until September 22, when the *Rush* returned to San Francisco, arriving there on October 2.

Of the one hundred and thirty days devoted to field investigation eighty were given to the two islands and fifty spent at sea in making the voyage to and from San Francisco and in cruising in the vicinity of the Pribilof Islands. This cruising carried me as far north as the island of St. Matthew and of Nunivak, and gave me an opportunity to visit the villages of Akutan, Unalaska, Makushin, Hashega, and Chernofsky, on the Alentian chain. Thus by field investigation, by cruising, as well as by seeking information from those qualified by their calling to give it, I sought to familiarize myself with the seal question in all its phases.

In the prosecution of my investigations I deemed it desirable to photograph all the rookeries often from two positions; to make a general topographic survey of both islands on a scale of 1 mile to the inch and to prepare detailed charts of the rookeries upon the unusually large scale of 264 feet to the inch. In carrying out this work I examined the entire shore lines of St. Paul and St. George, and there is not an area of a mile square upon either that I have not traversed nor a square hundred feet upon a rookery that I have not repeatedly inspected. The close attention to topographic forms demanded in platting rookeries with so much minuteness and the care required in selecting the best positions to secure photographs inevitably drew me in close contact with seal life and greatly increased my opportunities to study it. There was hardly

a day in which I did not have a chance to examine the rookeries and observe rookery life in its varied forms. In all my work upon the islands I was constantly attended by native Alents, who assisted in transporting my instruments and other impedimenta. Several of these could speak fair English. Our intimate daily relations, which extended over nearly three months, were under conditions that offered neither incentive to secrecy nor to deception, and, while their general views on and theory of seal life are to be received with caution, they are keen observers of little details, and from them, their friends, and old Russian records on the islands I received many valuable hints of a natural history and historical character.

Peter Brown, being duly sworn, deposes and says: I am the native chief of the Makah Indians; am about 55 years old, and reside on the Neah Bay Reservation, in the County of Clallam, and State of Washington, United States of America. I am acquainted with the habits of my people and the methods adopted by them in hunting the fur-seal. I am the master and one-third owner of the fishing schooner *James G. Swan*. I have been engaged in hunting seals with spears, more or less, all of my life.

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Thomas Brown, being duly sworn, deposes and says: My age is 31 years; my residence is Victoria, British Columbia; occupation, seaman. I went sealing in 1889 from San Francisco, Cal. (I do not remember the name of the vessel), Capt. Scott was master. * * * In 1890 I went sealing again in the schooner *Sea Lion*, Madison, master. * * * I was boat-puller. * * * In 1891, in the month of February, I sailed from Victoria, British Columbia, on the schooner *Thistle*, Nieherson, master. * * * I signed as boat-puller.

Thomas Brown, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of a laborer. I made a sealing voyage to the North Pacific and Bering Sea on the *Alexander*, of which Capt. McLean was master.

Charles Bryant, being duly sworn, deposes and says: I am a resident of Mattapoisett, Plymouth County, State of Massachusetts, and am 72 years of age. From 1840 to 1858, I was engaged in whaling in the North Pacific Ocean and Bering Sea. The latter portion of the time I was captain of a whaling vessel. I then retired to a farm located in the town of Fairhaven, in Bristol County, State aforesaid. In September, 1868, I was appointed a special Treasury agent to go to the Pribilof Islands to investigate and to report as to the habits of the fur-seal, the condition of the islands, and the most advantageous plan to adopt for the government and management of the same. Pursuant to such appointment I proceeded to the Pacific coast and in March, 1869, I landed on St. Paul Island and remained there until September of the same year. I then returned to Washington and laid my report before the Treasury Department. I again went back to the islands in July, 1870, and remained until the fall of 1871. Then, in April, 1872, I again arrived on St. Paul Island, this time in the capacity of special agent of the Treasury Department in charge of the seal islands. I was upon

the islands as such agent from that time during the sealing seasons from 1872 to 1877, inclusive, and passed three winters there, namely, those of 1872, 1874, and 1876. Since the year 1877 I have never visited the seal islands, and have been in retirement at Mattapoissett aforesaid. During these years I was upon the islands I made a most careful study of seal life thereon, and examined and inquired of the natives in relation to the habits and former conditions of the fur-seals.

Capt. James W. Budington, being duly sworn, deposes and says: I am 53 years of age, a resident of Groton, Conn., and a master mariner. Since 1871 I have made several voyages to the southern hemisphere for the purpose of seal hunting, and am thoroughly acquainted with the islands and coasts about Cape Horn and in the southern Atlantic Ocean where fur-seals have been taken. I also studied, as far as I was able, the habits and conditions of the fur-seal of the southern seas.

James W. Budington, p. 593.

Personally appeared before me Ruth Burdukofski, who, being duly sworn, deposes and says: I am 64 years of age, a native Aleut, being born on Bering Island, and do now reside, and have since the age of 17 resided, at Unalaska. In my early life, during the time of the Russian-American Company, I hunted seals in my bidarka in and off the bays of Unalaska Island.

Ruth Burdukofski et al., p. 206.

Karp Buterin, being duly sworn, deposes and says: I am 39 years of age, and I was born on St. Paul Island, Alaska, and I have always lived here. I have a practical knowledge of the fur-seal industry as it is done on St. Paul Island, for I have been working at it all of my life since I was able to work. I have driven seals and clubbed and skinned them; I have had charge of the drives and I have been second chief for four years, and I am head chief now, being elected in 1891.

Karp Buterin, p. 102.

Stephen N. Buynitsky, being duly sworn, deposes and says: I am a Russian by birth and am 60 years of age. I graduated from the Imperial Lyceum at St. Petersburg, an institution for the nobility. Am now a resident of the city of Washington. I was detailed by the United States Treasury Department to take charge of St. George Island, in Bering Sea, during the summer of 1870; I returned to the United States in the fall of that year. The following season I was appointed to take charge of both St. Paul and St. George islands. I arrived at the islands in July, 1871, and remained there till the latter part of April, 1872. During my stay on the islands I made careful examination into the habits and nature of the seal, and also read and studied the records left by the Russian Government in relation to the Pribilof Islands.

S. N. Buynitsky, p. 20.

Carlos G. Calkins, being duly sworn, deposes and saith: I am a lieutenant in the U. S. Navy, and have made three cruises into Alaskan waters, as follows, viz, in the year 1890, about the Bristol Bay region and the Aleutian Islands as far west as Unnak; in the year 1891, to the Pribilof Islands, in Bering Sea; and in the year 1892, from Kadiak Island to Prince William Sound, going as far into Cooks Inlet as Coal Bay.

C. G. Calkins, p. 104.

Landis Callapa, being duly sworn, deposes and says: I am about 45 years old, and am a native Makah Indian. I reside on the reservation at the Neah Bay Agency, county of Clallam, State of Washington, United States of America, and am, by occupation, a hunter and a fisherman. I have been engaged in hunting seals all my life, and have always used the spear, and went in canoes. *Landis Callapa, p. 379.*

Charles Campbell, captain of the British schooner *Umbrina*, being duly sworn, deposes and says: Have commanded said schooner the last two years. Have been engaged in sealing in the North Pacific Ocean and Bering Sea. *Chas. Campbell, p. 256.*

Ivan Canetak, Michaeler Balashoff, Nieoli Inloo, Sacar Balashoff, Nicoli Nieoli, Sacar Rolyah, and Nieoli Inloo, jr., being duly sworn, depose and say: We reside at the settlement known as Soldovoi, on Cooks Inlet, Alaska, and have lived in the immediate neighborhood all our lives. We are, by occupation, hunters of all fur-bearing animals, excepting the fur seal, which we do not hunt because we have been told it is unlawful. *Ivan Canetak et al., p. 229.*

John C. Cantwell, having been duly sworn, deposes and says: I am a second lieutenant in the United States Revenue Marine Service. I have been on duty in Bering Sea during the summer months of the years 1884, 1885, 1886, and 1891, and have frequently been on shore at the Pribilof Islands and in the waters adjacent thereto; have always made it a careful study and paid particular attention to the number of seal, both on the Pribilof Islands and in the waters of Bering Sea. Whenever opportunity afforded have visited the rookeries for the purpose of photographing and sketching the animals and studying their habits, numbers, etc. I have boarded a large number of vessels fitted out as sealers and engaged in sealing, and have conversed with their masters and crews on the subject of pelagic sealing. *Jno. C. Cantwell, p. 407.*

James L. Carthout, being duly sworn, deposes and says: I am 79 years of age. I reside in the city and county of San Francisco. My occupation is that of a master mariner. I was engaged in hunting the fur seals in the North Pacific in 1877 to 1887, and during the latter part of the time in Bering Sea. *Jas. L. Carthout, p. 409.*

Chakatt, being first duly sworn, deposes and says: That he is 65 years of age and a resident of Agnis; certifies evidence given by Dick or Ehenchesut to be true. *Chakatt, p. 307.*

Charles Challall, being duly sworn, deposes and says: I reside in San Francisco; my occupation is that of a sailor; I have been sealing up the coast and in Bering Sea three seasons, commencing in 1888 and ending in 1890; in 1888 I went on the *Vanderbilt*; we did not go into the Bering Sea that year; in 1889 I went on the *White*, and in 1890 I went on the *Hamilton*; they were all sealers. *Chas. Challall, p. 410.*

Charlie, being duly sworn, deposes and says: I am a native Nitnat Indian, and belong to the tribe of Indians on Vancouver Island, British Columbia. I am 55 years old and reside at Pachena Bay, on Vancouver Island, British Columbia. I am, by occupation, a hunter and fisherman, and have been so engaged ever since I have been able to paddle a canoe or spear a fish. I sailed out from Neah Bay in the *C. C. Perkins* in 1891, and this year I am sailing on *James G. Sicau*. Until the last eight or ten years I sailed out of Pachena Bay with my tribe in canoes. We used to seal in the Straits of Juan de Fuca and up and down the coast from 10 to 20 miles off. Between that time and last year I went sealing from Pachena and sealed up and down the coast between Columbia River and Barclay Sound, from 20 to 60 miles off the coast. I am familiar with all the bays and inlets on the west coast of Vancouver Island.

Charlie, p. 304.

Vassili Chichinoff, Timothy Demidoff, Simeon Reisoft, Alampy Pestikoff, Prokopy Nankook, Feodore Amtak, Evan Grinoff, and Feodore Grinoff, being duly sworn, depose and say: We are residents of St. Paul, Kadiak Island, Alaska, and are natives of Alaska. Our occupation is hunting for fur-bearing animals, principally the sea otter.

Vassili Chichinoff et al., p. 218.

Chillta, being first duly sworn, deposes and says: That he is a native and resident of Agnis; this year he and friend went out in canoe for one and a half months, and caught 20 seals, picking them up here and there. Certifies that evidence given by Dick or Ehenchesut is true.

Chillta, p. 308.

Simeon Chin-koo-tin, being duly sworn, deposes and says: I am 60 years old; was born and reside at Sitka, and am, by occupation, a seal hunter; have been engaged in that business since I was a small boy.

Simeon Chin-koo tin, p. 256.

Julius Christiansen, being duly sworn, deposes and saith: I reside at St. Pauls, Kadiak Island, Alaska, and I have in the Territory for the past ten years. I am an otter-hunter by occupation and the owner of a schooner engaged in that pursuit.

Julius Christiansen, p. 219.

Peter Church, being duly sworn, deposes and says: I was born at Sitka; am 22 years old, and am by occupation a hunter. Have been engaged in sealing the past four years in the North Pacific Ocean, always in the capacity of a hunter.

Peter Church, p. 257.

Circus Jim, being duly sworn, deposes and says: I am about 35 years old, and am a native Makah Indian. I reside on the Indian reservation of Neah Bay, in Clallam County, State of Washington, United States of America. I am by occupation a hunter and fisherman. I have been engaged at hunting seals for about seventeen years. In early times and until within the last ten years I hunted seals with spears in canoes. During the last ten years I have been sealing up and down the coast in schooners, but used spears all the time. When we used canoes ex-

Circus Jim, p. 380.

clusively, I used to hunt and capture seals about 20 miles in the Strait of San Juan de Fuca. I first went sealing in the Bering Sea in the *James G. Swan* in 1889, and went again on the schooner *Lottie* in 1891.

Clahowto, being duly sworn, deposes and says that he is a resident of the village Mchulet, Barclay Sound, and that the evidence given by Weckenuesch is true. *Clahowto, p. 312.*

James Claplanhoo, being duly sworn, deposes and says: I am about 43 years old, and a native Makah Indian. I reside on the Neah Bay Reservation, county of Clallam, State of Washington, United States of America. I am, by occupation, a hunter and fisherman. I own the schooner *Lottie*, which is of about 28 tons burden. I bought the said schooner about seven years ago. I have been engaged in hunting seals about twenty-four years. In my early days I hunted seals in canoes and with spears in the Strait of San Juan de Fuca, and about 80 miles off Cape Flattery. *Jas. Claplanhoo, p. 381.*

Clappa, first being duly sworn, deposes and says that he is 50 years of age; a native and resident of Aguis; up to two years ago he hunted seals; his last hunt took place in a schooner manned by twenty men and ten canoes; hunted two months and caught 200 seals. Certifies evidence given by Dick or Ehenchesut to be true. *Clappa, p. 307.*

Harry N. Clark, having been duly sworn, deposes and says: I am 32 years old, a native of Vermont, and now a resident of Vina, Tehama County, Cal., and by occupation foreman of vineyard cultivation at Governor Stanford's Vina Ranch. *Harry N. Clark, p. 158.*

From 1884 to 1889, inclusive, I was in the employ of the Alaska Commercial Company of San Francisco, on St. George Island, Alaska, engaged through each sealing season as "boss" of a gang of seal-hunters, and in the winter, excepting that of 1886 and 1887, as teacher and storekeeper on that island.

My work as the leader of the "sealing gang" gave me as perfect opportunity as could be had for studying the habits and peculiarities of the seal and determining the best manner of caring for them.

The condition of seal life was the principal topic of discussion and thought during the summer months, and the only one of particular interest. All became familiar with it, and watched every change in the breeding grounds or number of killable seals as carefully as a farmer watches the increase or decrease of his flocks and herds.

William Clark, being duly sworn, deposes and says: I was born at Klinquan and have lived there ever since; have hunted fur-seal nine years in Dixon's Entrance and off Prince of Wales Island, in and between March and June. *Wm. Clark, p. 293.*

Clat-ka koi, of the village of Toquat (Barclay Sound), and one of the chiefs thereof, being duly sworn, deposes and says: That he is 50½ years of age and belongs to the villages of Toquat and Sechart, at present residing in Toquat, and is a native of the village of Sechart. * * *

He does not hunt seal in schooners. He began sealing in his canoe just off the west coast of Vancouver Island, shortly after last New Year. * * *

Clat-ka-koi, p. 306. [Clat-ka-koi understands and speaks English fairly well.]

Christ Clausen, being duly sworn, deposes and says: I reside at Victoria, British Columbia; occupation, master mariner, and am 32 years of age. I went seal-hunting in 1889, as mate of the British schooner *C. H. Tupper*, Capt. Kelly, master. * * * In 1890 I was navigator in the British schooner *Minnie*. * * * In 1891 I went as navigator in the same vessel.

Q. What is your name, age, residence, and occupation?—A. My name is Daniel Claussen; age, 32; I reside in San Francisco and am by occupation a seal-hunter.
Daniel Claussen, p. 411.

Q. Are you a citizen of the United States?—A. I am; yes, sir.

Q. What State are you a resident of?—A. California.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea, and for how long?—A. I have been engaged in sealing in the Pacific and in Bering Sea for the last six years.

John C. Clement, being duly sworn, deposes and says: I reside at Sitka; am 25 years old. Have hunted seal one season on the schooner *Mollie Adams* in the North Pacific Ocean and Bering Sea.
John C. Clement, p. 258.

Maxwell Cohen, being duly sworn, deposes and saith: I reside at Fort Alexander, Cooks Inlet, Alaska Territory, and am by occupation the agent of the Alaska Commercial Company at this place, where I have resided for the past twenty-two years, during which time it has been my duty to collect and otherwise handle furs and skins of all descriptions for the aforesaid company.
Maxwell Cohen, p. 224.

Peter Collins, having been duly sworn, deposes and says: I am by occupation a sailor and reside in San Francisco. I was engaged as a boat-puller during the years 1888 and 1889. On both trips I went out on the voyage of the sealing schooner *San Diego* to Bering Sea.
Peter Collins, p. 413.

George Comer, being duly sworn, deposes and says: I am 34 years of age, and a resident of East Haddam, Conn. Since 1879 I have been engaged in sealing in the southern hemisphere and was out every year except two seasons up to 1889. I visited on these voyages Cape Horn, South Georgia, the Islands of Tristan d'Acunha, Goughs Island, the Crozets and Kerguelen islands. I have observed the habits of the seals frequenting these localities, and I spent fourteen consecutive months on one island, called by us West Cliff, located on the coast of Chile, about 100 miles north of the Straits of Magellan.
George Comer, p. 596.

Washington C. Coulson, having been duly sworn, deposes and says: I am captain in the United States Revenue Cutter Service. At present I am in command of the *W. C. Coulson*, p. 414. United States revenue cutter *Rush*. I was attached to the United States revenue cutter *Lincoln*, under the command of Capt. C. M. Seammon, during the year 1870, from June until the close of the year, as a third lieutenant, and have been an officer in the revenue service ever since. In the month of that year I was in the Bering Sea and at the seal islands of St. Paul and St. George. I went on shore at both islands and observed the seals and seal life, the method of killing, etc. * * * During the seasons of 1890 and 1891, I was in command of the revenue cutter *Rush* in Bering Sea, and cruised extensively in those waters around the seal islands and the Aleutian group. In the season of 1890 I visited the islands of St. Paul and St. George in the months of July, August, and September, and had ample and frequent opportunities of observing the seal life as compared with 1870.

Leander Cox, having been duly sworn, deposes and says: I am 52 years of age. I am by occupation a marine engineer. I reside in San Francisco. I first went to the Bering Sea in 1871, and have been going there annually since 1874. During the winter time I have been employed as engineer on a passenger vessel running between here and Victoria, British Columbia, making occasional trips south to San Diego, Cal. * * * *Leander Cox*, p. 416.

I am not now, and never have been in the employ of the present lessees of the seal islands.

Louis Culler, being duly sworn, deposes and says: I am 28 years old, and reside at Port Townsend, State of Washington. I am by occupation a civil engineer. In 1888 I shipped at Victoria, B. C., as a boat puller on the sealing schooner *Oscar and Hattie*, Gault, master. * * * In 1889 I shipped at Victoria as a hunter on the sealing schooner *Maggie Mac*. * * * In June, 1891, I shipped as a hunter on the sealing schooner *Otto*, Riley, master. *Louis Culler*, p. 321.

Charlie Dahtlin, being duly sworn, deposes and says: I was born in Shakan and have lived here all my life. Am a very old man. Have been a hunter all my life, hunting both seal and bear, and all kinds of land animals, and have killed a great many of all kinds. Have hunted seal off the west coast of Prince Edward Island for a number of years. *Charlie Dahtlin*, p. 278.

James Dalgarduo, being duly sworn, deposes and says: I am a native of Scotland and am 58 years of age; have resided in the United States forty-five years, and have been a naturalized citizen forty years; I am a resident of Port Townsend and have resided in this vicinity for the past forty years, during which period I followed the business of fishing and piloting. I have been in the seal-hunting schooners for a period of eight years, either as master or owner of the schooner, and I hunted in the vicinity of Cape Flattery, say 30 miles off the cape in each direction. *James Dalgarduo*, p. 364.

William Healy Dall, of Washington, aforesaid, being duly sworn, deposes and says: That in connection with my scientific studies at Cambridge, Mass., I devoted nearly three years to the study of biology, anatomy, and medicine; that since completing my studies with Prof. Louis Agassiz at Cambridge, in the year 1863, I have been engaged in scientific work, and am now a paleontologist in the U. S. Geological Survey. I first visited Bering Sea in the summer of 1865 as a member of the scientific corps of the Western Union Telegraph expedition. Visited the Aleutian Islands and went to St. Michael, passing near the Pribilof group. In the spring of 1866 again went to northern Alaska, in the same capacity, and remained there until the fall of 1868. In 1867 the aforesaid expedition was abandoned, but I remained in the country in order to continue my scientific investigations, wintering on the mainland. In the fall of 1868 I made my way back to San Francisco on the schooner *Francis Steele*, owned by the Pioneer American Fur Company, which had a station at St. George Island, where we stopped on our way south, and thus gave me a chance to observe seal life for several weeks. In 1871 I joined the U. S. Coast and Geodetic Survey for the purpose of carrying out a proposed survey of the Aleutian chain of islands. I was thus engaged from the summer of 1871 to the end of the season of 1874, and during the winter of 1871-'72 wintered at Unalaska. During this period had opportunity to familiarize myself with aquatic seal life, and in 1874 made a reconnaissance survey of the Pribilof Islands, which afforded me an additional opportunity to observe seal life on the rookeries.

In 1880 I again visited all my former stations about and in Bering Sea for the purpose of obtaining magnetic observations. This was my last opportunity to examine the rookeries.

John Dalton, having been duly sworn, deposes and says: I am 32 years of age. I reside in San Francisco. My occupation is that of a sailor. I made a sealing voyage to the North Pacific and Bering Sea in 1885 on the Schooner *Alexander*, of which Capt. J. F. McLean was master. I was a boat-puller.

Alfred Dardean, being duly sworn, deposes and says: I reside at Victoria, British Columbia. My occupation for the last two years has been that of a seaman. I went sealing in the schooner *Mollie Adams* (afterwards changed to *E. B. Marvin*) as boat puller.

Frank Davis, being duly sworn, deposes and says: I am about 66 years old, a native Indian of the Makah tribe, reside on the Neah Bay Reservation, in the county Clallam, State of Washington, and my occupation is that of a hunter and fisherman. I have been engaged in seal hunting for about seventeen years. I have always hunted in canoes and with spears, and years ago would kill a great many seals. I was up in the Bering Sea sealing in 1889, and have not been there since. All the other years I have been seal hunting along the coast between Grays Harbor and Barclay Sound.

Jeff. Davis, being duly sworn, deposes and says: I am about 24 years of age, and am a native Makah Indian, and reside on the reservation at the Neah Bay Agency, in the county of Clallam, State of Washington, United States of America. I am a hunter and fisherman. Since 1876 I have been engaged in hunting seals most of the time in large canoes, each canoe carrying three Indians, who used spears. I sat in the middle of the canoe and was known as the paddler. The one who sat in the stern steered the canoe, and the one in the bow was the hunter. * * * I have hunted seals in the Bering Sea for one season only. I went there in the schooner *James G. Swan* in 1889. *Jeff Davis, p. 384.*

Joseph Dennis, having been duly sworn, deposes and says: I reside in San Francisco; my occupation has been that of seaman for the last three years. I was on the *Vanderbilt* in 1888, that being the only sealing trip I ever made. *Joseph Dennis, p. 418.*

Dick, or Ehenchesut, first being duly sworn, deposes and says: That he is about 40 years of age, and one of the chiefs of the village of Aguis, Barclay Sound; is a native of this village, and a resident of the same. *Dick, or Ehenchesut, p. 306.*

Hooniah Dick, being duly sworn, deposes and says: Born at Sitka; am about 40 years old. Have been living in Hoonah ten years, and am now subchief the Hoonah Indians. Have hunted seal for three years from Cross Sound to Yakutat. * * * Have traveled from Hoonah to Fort Simpson and north as far as Chilcat through all the channels and sounds in southeastern Alaska, and I come in contact with the people of many tribes of Indians. *Hooniah Dick, p. 258.*

George Dishow, being duly sworn, deposes and says: I reside at Victoria, British Columbia; am by occupation a seal hunter; have been engaged in the business six years; was on the *Triumph, Favorite, Penelope*, two seasons on the *Umbrina*, and one season on the American schooner *Walter Rich*, hunting seal in the Pacific Ocean, Bering Sea, and on the Russian side of the Bering Sea. *George Dishow, p. 323.*

John Dohrn, being duly sworn, deposes and says: That he is a native of Germany, and has been engaged in seal hunting during the present season on the schooner *Laborador*, of Vancouver, British Columbia, in the capacity of boatpuller. *John Dohrn, p. 259.*

Richard Dolan, having been duly sworn, deposes and says: I am 55 years of age. I reside in San Francisco. I am by occupation a longshoreman. I made a sealing voyage to the North Pacific and Bering Sea in 1885, on the schooner *Alexander*, of which Capt. McLean was master. *Richard Dolan, p. 418.*

James Henry Douglass, being duly sworn, deposes and says: I am a citizen of the United States. I am, by occupation, a master and pilot of vessels. My residence is Alameda, Cal. I have had a long experience sail- *Jas. H. Douglass, p. 419.*

ing in the North Pacific and Bering Sea. I went to the seal islands in Bering Sea over twenty years ago, and have been there many times subsequently while in the employment of the Government. From 1882 to 1888 I cruised consecutively in Bering Sea as pilot on the revenue cutters *Rush* and *Corwin*, and was often on the seal islands, our vessel being frequently anchored offshore in the adjacent waters. I had abundant opportunity and leisure to watch the habits of the fur-seals, both on the Pribilof Islands and in the waters of the Northwest Pacific Ocean and Bering Sea. * * * I am familiar with the area and topography of the various rookeries on the islands.

John Duff, being duly sworn, deposes and saith: I reside at Coal Point, on Kachemak Bay, Cook's Inlet, Alaska, and have lived in the Territory for the last five years. I am the agent for the Cooper Coal and Commercial Company at this place, and have no personal knowledge of fur-seal life. * * * I have traveled extensively through the Territory from Sitka to the Yukon River.

Peter Duffy, having been duly sworn, deposes and says: I am, by occupation, a seaman. I reside in San Francisco. I was in the Bering Sea in 1884 and 1885 on board the *Sea Otter*, of which Capt. Williams was master. I was a boat puller.

William Duncan, being duly sworn, deposes and says: I am 60 years of age; I have resided in British Columbia thirty years and at New Metlakatla five years, and have always been with the Tsimshian Indians, both in British Columbia and Alaska. The Tsimshians are great hunters of fur-seal.

Echon, being duly sworn, deposes and says: Am about 50 years old and was born at Shakan. Have lived there all my life. Am a hunter by occupation. Have hunted seal in the summer time and land game in the winter. Have hunted seal off Prince of Wales Island in the spring.

Ellabush, being duly sworn, deposes and says: I am about 30 years of age, and am a native Makah Indian, and reside on the Neah Bay Reservation, in the county of Clallam, State of Washington, United States of America. I commenced sealing in canoes along the coast and in the Straits of San Juan de Fuca about fifteen years ago, and have always hunted seals with spears until recently. * * * About two years ago I began to hunt with guns.

M. C. Erskine, having been duly sworn, deposes and says: I am 55 years of age. I reside in San Francisco. I am a master mariner by occupation. I have been going to the Bering Sea twenty-four years. I went first to the seal islands in April, 1868, and have been going there ever since, visiting the islands every year until 1890. I have been cruising along the coast from here to the Aleutian Islands, and have had an opportunity of ascertaining the habits of the seals. * * * I have been

for the past twenty-four years, and am now, employed by the Alaska Commercial Company, the former lessees of the seal islands, and my opportunity for gathering the facts herein set forth has been of the most favorable character, both at the seal islands as well as in the Bering Sea. I am not now and never have been in the employ of the present lessees of the seal islands.

Elias Esaiassen, being duly sworn, deposeth and saith: I reside at the settlement known as Soldovoi, on Cooks Inlet, Alaska, and have lived in the immediate neighborhood four years. I am a miner and prospector by occupation, and have no knowledge of or experience in fur-seal life above the inlet. *Elias Esaiassen, p. 230.*

George Fairchild, having been duly sworn, deposes and says: I reside in San Francisco. I am a sailor by occupation. I made a sealing voyage to the North Pacific and Bering Sea on the *Sadie Clyde*, of which Capt. Dockerty was master. I was a boat-puller. *George Fairchild, p. 423.*

Samuel Falconer, being duly sworn, deposes and says: I am 61 years of age, and am now a wool-grower by occupation. My residence is Falconer, McLean County, State of North Dakota. In 1868, during the month of October, I went to Sitka, being located there as deputy collector of customs, in which position I remained until September, 1869. *Samuel Falconer, p. 163.*

I then was employed until September, 1870, as purser on board the steamer *Constantine*, plying monthly between Port Townsend and Sitka. In October, 1870, having been appointed assistant Treasury agent for the seal islands, I proceeded to said islands, and from that time until August, 1876, I remained constantly in charge of St. George Island, excepting during the winter of 1874-'75. For a few days during each one of these years I visited the Island of St. Paul, never remaining there for any length of time, however. It was necessary, in order that I might fulfill the duties of my office as agent, to make a very careful and full study of seal life, my observations being, of course, confined to St. George Island, and I therefore examined the rookeries and their occupants with the particular purpose of acquainting myself with the habits and peculiarities of the Alaska fur seal, and I endeavored to verify all my observations by particularly interrogating the natives on the islands as to each doubtful point.

F. F. Feeny, a resident of Long Island, St. Paul Harbor, Kadiak Alaska, being duly sworn, saith: I have resided in Alaska over twenty years. I am owner and captain of a hunting and trading schooner. I have been along the coast from Unimak Pass to Sitka. I have never hunted fur seal regularly, but have killed them when I came across them. *F. F. Feeny, p. 220.*

Vassili Feodor, being duly sworn, deposes and saith: I am a native of Alaska, and reside at the settlement known as Soldovoi, on Cooks Inlet, Alaska, where I have lived all my life. I am by occupation a hunter of all fur-bearing animals except the fur seal, which I am told it is unlawful to kill. *Vassili Feodor, p. 230.*

Herbert V. Fletcher, being duly sworn, deposes and says: I am a citizen of Randolph, Vt., where I have had my home nearly all my life. I am by trade a machinist and blacksmith, and by occupation a farmer.

H. V. Fletcher, p. 105.

In 1882 I went to St. Paul Island in the service of the Alaska Commercial Company as their chief mechanic, and remained there two years and four months, including the sealing seasons of 1882, 1883, and 1884. During such season of each of these years I was employed a considerable portion of the time in the annual seal-killing, and at other times my work took me frequently to the various parts of the island, so that in the course of my stay there I became, as all do who live there a year or more, very familiar with everything pertaining to the seals.

George Fogel, having been duly sworn, deposes and says: I am 52 years of age. I reside in San Francisco. My occupation is that of a merchant. I have been interested in sealing schooners for four years prior

Geo. Fogel, p. 424.

to 1892. I sent out the *C. H. White* and *Kate Manning* to the Bering Sea and North Pacific. * * * I fitted out the schooner *Cygnnet* in 1874, which was one of the first sealers to go to the Bering Sea. * * * In 1870 I sent a vessel to Chilaway, off the coast of Chile.

William Foster, a resident of St. Paul, Kadiak, Alaska, being duly sworn, deposed and said: I am a hunter. Have been in Alaska eighteen years. Have been from Icy Bay to Unalaska. I have never hunted fur

Wm. Foster, p. 220.

seal until last year.

C. L. Fowler, being duly sworn, deposes and says: I am 46 years of age and was born at Stoneham, Mass. I have been a resident of the Pribilof Islands most of the time since 1879. My occupation is that of assistant

C. L. Fowler, p. 25.

agent of the lessees of the islands. I have had eight years' experience on the sealing fields of St. Paul and St. George islands, and I have a practical knowledge of the habits of the fur seal while on the islands, and of the methods used in taking and preparing the skins for shipment.

Frank, being duly sworn, deposes and says: I was born on Queen Charlottes Island, and am now a very old man. Don't know my age. I have hunted fur seals.

Frank, p. 293.

* * * I always hunted seals in Dixons Entrance and off Prince of Wales and Queen Charlotte islands in March and June.

Chief Frank, being duly sworn, deposes and says: I am the second chief of the Kaskan Indians. Was born at and have lived in Kaskan all my life, and am now a very old man. My father lived here before me.

Chief Frank, p. 280.

My occupation has always been that of a hunter. Have hunted fur-seal in canoes. Have always used the shot-gun for killing seal.

Luke Frank, being duly sworn, deposes and says: I was born in Howkan, and have lived there all my life; am by occupation a hunter, and have hunted fur-seal six years of my life; have always hunted in Dix-

Luke Frank, p. 294.

on's Entrance and off Prince of Wales Island during the month of May and June each year.

Q. What is your name, age, residence, and occupation?—A. My name is Luther T. Franklin; age, 35; residence, at present, Oakland; occupation, seal-hunter. *Luther T. Franklin, p.*

Q. Are you a citizen of the United States?—425.

A. Yes, sir.

Q. What State are you a resident of?—A. State of California.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea?—A. Yes, sir.

Q. For how long a time have you been so engaged?—A. Three seasons.

Alfred Fraser, being duly sworn, says: First, that he is a subject of Her Britannic Majesty and is 52 years of age and resides in the city of Brooklyn, in the State of New York. That he is a member of the firm of C. M. Lampson & Co., of London, and has been a member of said firm for about thirteen years; prior to that time he was in the employ of said firm and took an active part in the management of the business of said firm in London. That the business of C. M. Lampson & Co. is that of merchants, engaged principally in the business of selling fur skins on commission. That for about twenty-four years the firm of C. M. Lampson & Co. have sold the great majority of the whole number of seal skins sold in all the markets of the world. That while he was engaged in the management of the business of said firm in London he had personal knowledge of the character of the various seal skins sold by the said firm, from his personal inspection of the same in their warehouse and from the physical handling of the same by him. That many hundred thousands of the skins sold by C. M. Lampson & Co. have physically passed through his hands; and that since his residence in this country he has, as a member of said firm, had a general and detailed knowledge of the character and extent of the business of said firm, although since his residence in the city of New York he has not physically handled the skins disposed of by his firm. *Alfred Fraser, p. 554.*

John Fratis, being duly sworn, deposes and says: I am 47 years of age and was born on the Ladrone Islands. I can speak the English, Russian, and Spanish languages, and I understand the "Aleut" as it is spoken by the natives of St. Paul Island, Alaska. *John Fratis, p. 107.*

I came to St. Paul Island in 1869, and married a native woman and became one of the people; was made a native sealer and have resided here ever since.

From 1859 to 1869 I was employed on whaling vessels working in Bering and Okhotsk seas and the Arctic Ocean. I have been along the coast of Bering and Okhotsk seas, and along the coast of Alaska in the North Pacific Ocean from Sitka to Unalaska. I have worked on the sealing grounds at everything there is to do, from driving to clubbing, and preparing the skins for shipment.

Thomas Frazer, being duly sworn, deposes and says: I am a native of England, and am 50 years old; have been seven-ten years in the United States, of which I am a citizen. I am a resident of Port Townsend, and *Thos. Frazer, p. 364.*

have resided in this vicinity during the past seventeen years. My occupation is that of seaman, and I have hunted seals off Cape Flattery for sixteen years. In 1891 I was a hunter on board the *James G. Swan*, of Port Townsend.

William Frazer, having been duly sworn, deposes and says: I am 22 years of age. I reside in San Francisco. My occupation is that of a laborer. I have made three trips to the Northern Pacific and Bering Sea within the last six years. My first trip was on the *Charles Wilson*, of which Capt. Robert Turner was master, and the next was in the *Vanderbilt*, and the last was in the *C. G. White*.

Q. What is your name, age, residence, and occupation?—A. My name is Edward W. Funcke; age, 27; residence, at San Francisco; occupation, seal hunter.

Q. Are you a citizen of the United States?—A. No; I am not.

Q. What State are you a resident of?—A. California.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea, and for how long?—A. For the last five years; yes.

John Fyfe, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of a sealer. I made a sealing voyage to the North Pacific and Bering Sea on the schooner *Alexander*, of which David McLean was master. I was a boat-puller.

Nicholi Gadowen, being duly sworn, deposes and says: I am second chief of the Killisnoo Indians; am 50 years old; born at Killisnoo and have lived there all my life; am by occupation a herring fisherman. Have never killed a fur seal in my life. * * * I visit the different parts of the sound with my tribe when they are making oil.

Frank M. Gaffney, having been duly sworn, deposes and says: I am 31 years old, an American citizen and master of the schooner *Hancock*, owned by Lynde & Hough, of San Francisco. I am now, and have been since 1879, engaged in fishing and seal hunting. In 1885 I made a voyage to the Galapagos Islands as master of the schooner *Dashing Ware*, arriving there on the 30th of August and remaining until the 8th day of December of the same year. * * * During the past winter I have made a second voyage as master of the schooner *Hancock* to the southern waters, in search of seals. * * * I have been sailing to the Alaska coast, chiefly to the Shumagin Banks, in the codfish trade since 1879, and as master of a vessel since 1883. I have made in all some twenty-five or thirty voyages, usually between April and October.

George, the son of Klotz-klotz, being duly sworn, deposes and says: I belong to the Chilcat tribe of Indians and reside at Chilcat; am about 35 years old. I trade with the interior Indians and up the coast through Lynn Canal, and down the coast as far as Wrangel and Stikeen. Never killed a fur-seal in my life.

Chad George, being duly sworn, deposes and says: I was born at Neah Bay, and have lived there all my life; am 27 years old; have been a seal hunter ever since I was a small boy. Have spent three seasons in Bering Sea. For the last eight years I have been engaged as hunter. Spent the three seasons in Bering Sea on the schooners *Alfred Adams* and *Lottie*. *Chad George, p. 365.*

Charles Gibson, being duly sworn, deposes and says: I am 33 years old; was born in British Columbia, and now live at Port Chester. I have hunted seal in canoes in Queen Charlotte Sound. *Chas. Gibson, p. 281.*

Thomas Gibson, having been duly sworn, deposes and says: I am a sailor and seal hunter by occupation. I reside in San Francisco. I have been engaged in sealing for ten seasons. My first voyage was about 1881, when I went out in the *San Diego*, of which Capt. Baynard was master. We sailed from this port; I shipped as a hunter. * * * The next trip I made was in 1882, when I went out in the American schooner *Lookout*, of which Capt. Kelly was master. * * * In 1883 I went out in the American schooner *Mary de Leo*, of which Capt. Wentworth was master. * * * In 1884 I went out in the American schooner *Alger*. * * * In 1885 I went in the English schooner *Gruee*. In 1886 I went in the American schooner *Alger*. * * * In 1887 I went in the English schooner *Active*. * * * In 1888 I went out in the English schooner *Rosa Lee*. * * * In 1890 I went out in the *C. G. White*. *Thos. Gibson, p. 431.*

Henry A. Glidden, being duly sworn, deposes and says: I reside at Albion, in the State of New York, am 61 years of age, a lawyer by profession, and am not in the employ of the United States Government. I was appointed special Treasury agent in charge of the seal islands under Secretary Folger. On May 31, 1882, I arrived on St. Paul Island, and remained there until June 8, 1885, only returning once to the States to pass the winter of 1883-'84. I was located the entire time on St. Paul Island. During my experience there I examined carefully the rookeries on the island, as was necessary in connection with my duties as special Treasury agent, and incidentally studied seal life on the islands. *H. A. Glidden p. 109.*

Charles J. Goff, of Clarksburg, W. Va., being duly sworn, deposes and says: I am 45 years of age. During the years 1889 and 1890 I occupied the position of special Treasury agent in charge of the Pribilof Islands. I was located on St. Paul Island, only visiting St. George Island occasionally. About the 1st of June, 1889, I arrived on St. Paul Island and remained there until October 12, 1889, when I returned to San Francisco for the winter. Again went to the islands in 1890, arriving there about the last week in May and remaining until August 12, 1890. Since that time I have never been on the islands. My principal observations as to seal life upon the islands were confined to St. Paul Island, as I only visited St. George Island occasionally. *Chas. J. Goff, p. 111.*

During my first year on the islands the Alaska Commercial Company was the lessee thereof, and during my second year the North American Commercial Company.

Gonastut, being duly sworn, deposes and says: I am 30 years old.

Gonastut, p. 238.

I was born at Kodiak and live at Yakutat and belong to the Yakutat tribe of Indians. Am a hunter by occupation. Have killed a few fur-seal.

James Gondowen, being duly sworn, deposes and says: Am 30 years old; born at Killisnoo and reside at Sitka. Am

Jas. Gondowen, p. 259.

by occupation a hunter, hunting seal every summer and deer every winter since I was a small boy.

Hunted one season on schooner *Sitka*. Have hunted seal between Sitka and Cross Sounds.

Kassian Gorloi, a native and resident of Atka, 56 years of age, being duly sworn, deposes and says: I am chief of

Kassian Gorloi, p. 212.

the native settlement at Atka, and have lived on this and neighboring islands all my life. I am a

hunter of sea-otter and foxes by occupation, and have never hunted the fur-seal as a regular thing.

George Grady, having been duly sworn, deposes and says: I am 28 years of age. I reside in San Francisco. My

Geo. Grady, p. 433.

occupation is that of cook on board of vessels. I went to the Bering Sea in 1889 upon the *Laura*,

from Victoria, as a cook.

E. M. Greenleaf, being duly sworn, deposes and says: I have resided in Victoria, British Columbia, since 1884. My

E. M. Greenleaf, p. 324.

occupation is that of a seafaring man and have a commission as master mariner. Was shipping

agent in this port for three years. In 1891 I went on a sealing cruise as master of the schooner *Mountain Chief*. * * * I was interested in the schooner *Sarah W. Hunt*, that made a voyage from New York to the South Atlantic in 1882-'83 on a sealing venture. * * * Since then I have been interested in the sealing business, and am well acquainted with it, and the men engaged in it and the methods they employ. I am acquainted with the hunters and masters who sail from this port, and board all incoming and outgoing vessels of that class.

Nicoli Gregoroff, Peter Adungan, Pavel Shimeakin, Anton Kalishnikoff, Avakoon Kalishnikoff, Miron Aliman, Timofe Chayha, Afanasse Malick, Marka Koosche,

Nicoli Gregoroff et al., p. 234.

Giorgi Agooklook, Gregory Aogay, Makar, Choomovitsky, Yakoff Abakoo, and Evan Choomovitsky, being duly sworn,

depose and say: We are natives of Alaska, and reside at Port Etches, Prince William Sound, Alaska, and have lived in the Territory all of our lives. We are hunters of fur-bearing animals, and are well acquainted with the coast line of this region.

Arthur Griffin, being duly sworn, deposes and says: My age is 24 years, and am by occupation a seafaring man and

Arthur Griffin, p. 325.

reside at Victoria, British Columbia. On February 11, 1889, I sailed from Victoria, as a boat-pul-

ler, on the sealing schooner *Ariel*. * * * On January 10, 1890, I sailed from Victoria as a boat-steerer in the schooner *Sea Lion*. * * * I went out sealing again the same year on the *E. B. Marvin*. * * * I shipped as a boat-steerer.

James Griffin, being duly sworn, deposes and says: I am 22 years old, and live in San Francisco. I hunted seal last year in the schooner *La Nympha* as boat-puller. *James Griffin, p. 433.*

W. P. Griffith, being duly sworn, deposes and says he is American born, and has been engaged in sealing during the present season on the schooner *Laborador*, of Vancouver, British Columbia, in capacity of hunter. *W. P. Griffith, p. 260.*

Joseph Grymes, having been duly sworn, deposes and says: I reside in Victoria. My occupation is that of a seaman. I made a sealing voyage on the schooner *Triumph* in 1890, as a boat-puller. *Joseph Grymes, p. 434.*

A. J. Guild, being duly sworn, deposes and saith: I reside at the settlement known as Soldovoi, on Cooks Inlet, Alaska, and have lived at settlements along the coast between Sitka and Cooks Inlet for the past eleven years. I am a miner by occupation, but formerly followed the sea. I was for two seasons employed by parties in Port Townsend, Wash., as a seaman on board of sealing schooners clearing from that place. *A. J. Guild, p. 231.*

Franklin L. Gunther, being duly sworn, says: I am 39 years of age, a citizen of the United States and a resident of the city of New York. For the past twenty-three years I have been with the firm of C. G. Gunther's Sons, and in 1876 I became a member of it. This firm has been in existence and done business in the city of New York under names very similar to its present name since the year 1820; it has always carried on a wholesale and retail fur business. It was one of the first firms to introduce seal-skin garments into the United States, and since 1857 it has constantly been engaged in placing them upon the market. It has been in the habit of buying annually in London from 2,000 to 6,000 Alaska fur-seal skins, and it has handled very many more. *Franklin L. Gunther, p. 531.*

Q. What is your name, age, residence, and occupation?—A. My name is Charles G. Hagman; age, 47; residence, San Francisco; occupation, seaman. *Chas. G. Hagman, p. 435.*

Q. Are you an American seaman?—A. I am.

Q. Have you ever been engaged in the business of catching seals in the Pacific or Bering Sea?—A. Yes, sir.

Q. For how long a period?—About eight years.

Q. Have you been master of a vessel thus engaged?—A. Yes, sir.

Charles J. Hague, a citizen of the United States of America, 53 years of age, being duly sworn, deposes and says: I reside at Alameda, Cal., and am a master mariner by occupation. I have been cruising steadily in Alaskan waters since the year 1878. I have sailed principally about various parts of the Aleutian Islands, as far west as Attu, to which island I have made about twenty trips from Unalaska, mostly in the spring and fall of the year. *Chas. J. Hague, p. 207.*

Henry Haldane, being duly sworn, deposes and says: I am 33 years old; born in British Columbia, and now reside at New Metlakatla. *Henry Haldane, p. 281.*

Martin Hannon, being duly sworn, deposes and says: I reside at Victoria, British Columbia. I am by occupation
Martin Hannon, p. 445. a seal hunter. Have been engaged in sealing the last three years on the British schooners *Triumph*, *Walter Rich*, *Borealis*, *Umbrina*, and the German schooner *Adele*.

Alexander Hansson, having been duly sworn, deposes and says: I am 34 years of age, a native of Sitka, Alaska, and
Alex. Hansson, p. 116. was educated in the public schools of California, and afterwards attended school six years in Lovisa, Finland, returning to the United States in 1875, when 18 years old. I immediately took service as second mate on the schooner *Matthew Turner*, and later on the steamer *Dora*, vessels of the Alaska Commercial Company sailing to Alaska, and was employed a greater part of the time, for two years and a half, in the Unalaska district. In 1886 I went to St. Paul Island of the Pribilof group, and have since remained there constantly from that time until August, 1891. I was employed there in various occupations in connection with sealing, but chiefly in handling seal-skins and as one of the "killing gang," and am familiar with every phase of the business.

Q. What is your name, age, residence, and occupation?—A. My name is H. Harmsen; age, 38; residence, San Francisco; occupation, mariner.
H. Harmsen, p. 442.

Q. Are you an American citizen?—A. Yes, sir.

Q. Have you ever been engaged in the business of catching seals in the Pacific or Bering Sea?—A. Certainly.

Q. For how long a period?—A. Since 1877.

Q. Have you been master of vessels thus engaged, or any officer in any official capacity?—A. Yes, sir; since 1880 I have been master.

Alfred Harris, being duly sworn, says: I am 40 years of age, a citizen of the United States and a resident of the city of New York. For twelve years prior to February 1, 1892, I was a member of the firm of Harris & Russak, which still does a large wholesale fur business in the city of New York. I am now associated with this firm in its business and have charge of its manufacturing department. I am authorized to sign the firm name to the annexed statement, and the reason why I sign it, instead of one of the partners, is that I have a much more intimate knowledge of all branches of the business than any one else. We are manufacturers of furs of all kinds, and a large proportion of our business consists in the manufacture of seal-skin articles. Between the years 1880 and 1890 we handled per annum on an average 12,000 fur-seal skins of the three catches. Between 1885 and 1890 we handled from 35,000 to 40,000 Alaska skins, which had been dressed and dyed in London.

James Harrison, being duly sworn, deposes and says: I reside at Victoria, British Columbia, and am by occupation
James Harrison, p. 326. seafaring man. I have had experience in the seal-hunting business. First went out sealing as boat-puller along the Northern Pacific coast about the 26th of June, 1891; sailed from Victoria, British Columbia, in the schooner *Triumph*. * * * I sailed again about February 12, 1892, in the same vessel.

Jacob Hartlismuk, being duly sworn, deposes and says: I was born at and have lived in Yakutat all my life. I belong to the Yakutat tribe of Indians. I am now a very old man. I am by occupation a hunter. I have hunted sea-otter, but have never killed a fur-seal in my life. * * * I have traveled from Icy Bay to Sitka Sound, and met many Indians belonging to other tribes. *Jacob Hartlismuk, p. 239.*

Sam Hayikahtla, being duly sworn, deposes and says: I was born at Yakutat, and have lived there all my life. Am 49 years old. Have been hunting all my life. *Sam Hayikahtla, p. 239.*

Capt. J. M. Hays, being duly sworn, deposes and says: I reside in San Francisco, and am by occupation master of a vessel. Have been in the employ of the Alaska Commercial Company since 1881, and in the discharge of my duties have visited annually, with one exception, the different trading posts on the islands of the Aleutian Archipelago, and on the Alaskan coast in the Bering Sea, as far north as St. Michaels, and prior to 1890 I went annually to the seal islands in Bering Sea, and frequently visited the seal rookeries on the same. * * * I am not now, nor never have been in the employ of the present lessees of the seal islands. *J. M. Hays, p. 26.*

Charley Hayuks, being duly sworn, deposes and says that he is a resident of this village and is chief of police of same. He certifies that the evidence given by Weckenunesch is correct. * * * [Charley Hayuks understands and speaks English fairly well.] *Charley Hayuks, p. 312.*

James Hayward, being duly sworn, deposes and says: My age is 32 years; I reside at Victoria, British Columbia; occupation, seaman. I went on a sealing voyage in 1887 as boat-steerer on the American schooner *Vanderbilt*. * * * In 1888 I went in the American schooner *Chas. D. Wilson*. * * * as boat-steerer. * * * In 1890 I went in an American schooner (I can not give her name) as boat-steerer. * * * In 1891 I went as boat-steerer in the American schooner *City of San Diego*. *James Hayward, p. 327.*

Capt. M. A. Healy, having been duly sworn, deposes and says: I am a citizen of the United States. I am now and have been for the last twenty-five years an officer in the United States Revenue Marine Service, and have been on duty nearly all the time in the waters of the North Pacific, Bering and Arctic Seas. For the past six years I have been in command of the United States revenue steamer *Bear*, prior to which time I had command of the United States revenue steamer *Corwin* for six years; both of which vessels were employed almost exclusively in navigating the waters of Bering Sea, guarding the seal islands, and protecting the seals found in those waters from destruction by poaching vessels engaged in what is known as pelagic sealing. My first voyage was made to the seal islands in 1869, and I have cruised annually for the last twelve years in the Alaskan waters about the Pribilof Islands up to the present time. My official position and the character of my *M. A. Healy, p. 27.*

employment, as well as natural inclination, has given me an opportunity for familiarizing myself with the character of the fur-seal industry and the habits of the seals, and has also brought me in contact with many people engaged in the hunting of the fur-seals, and of the general methods employed in catching them.

Max Heilbronner, having been duly sworn, deposes and says: I am the secretary of the Alaska Commercial Company
Max Heilbronner, p. 509. of San Francisco, and as such have custody of all accounts of said company.

John A. Henriques, of New London, Conn., being duly sworn, deposes and says: I am 65 years of age, and a captain in the U. S. Revenue Marine, and have been in the service for twenty-nine years. In the fall of 1868 I was ordered to Sitka, and in the spring of 1869 received instructions to proceed at once with the revenue steamer *Lincoln* to Bering Sea in order to protect the seal life from depredations, information having been received that seal-skins had been taken from the Pribilof Islands by unauthorized persons during the previous season. On the 4th of May, 1869, I left Sitka for Kodiak; on the 13th of May I left Kodiak pursuant to orders, with 14 men of the Second Artillery and the commissioned officer, Lieut. Mast. Thence proceeded to the Pribilof Islands, touching at Unalaska. On May 22 I landed a portion of the troops and Lieut. Barnes, of the Revenue Service, with rations and stores, on St. Paul Island, one of the Pribilof group. The troops were here landed for the purpose of enforcing the United States statute providing for the protection of seal life. Lieut. Barnes had charge of St. Paul Island, and no seals were allowed to be killed, except a sufficient number for the food of the natives, and these were to be killed only under the direction of said Lieut. Barnes.

After landing I called the natives together, and through an interpreter informed them of the purport of the orders and directions of the Treasury Department in relation to the island and the natives readily agreed to follow such instructions. I had heard from the natives that seals were very timid, and thereupon ordered all the dogs on the island to be killed, which order was executed within ten minutes after it was given. I further asked the natives to surrender all firearms in their possession until the close of the sealing season, so that the sound of the firing of the same might not disturb the seals; this also they immediately did. During the time I was on the island I particularly noticed the care that the natives took not to disturb the seal rookeries, even warning some of our party from the use of tobacco in any form in the neighborhood of such rookeries. On May 24th I landed Lieut. Henderson, of the Revenue Marine, on St. George Island with the remainder of the troops, their stores and equipments. Lieut. Henderson was vested with the same authority on St. George Island that Lieut. Barnes had on St. Paul Island. Here I also had an interview with the natives as on St. Paul Island, and they too, readily complied with the orders in relation to dogs and the use of firearms above stated. Every precaution that was possible was taken by the Government officers to protect the seal life on the islands and also to prevent the breeding rookeries from being disturbed in any way.

Q. What is your name, age, residence, and occupation?—A. My name is William Henson: I am 30 years old; I reside in this city; I have been occupied in seal-hunting for about eight years.
Wm. Henson, p. 483.

Q. Are you a citizen of the United States?—A. Yes, sir.

Q. What State are you a resident of?—A. The State of California.

William S. Hereford, having been duly sworn, deposes and says: I am 39 years of age, and am a physician. I hold the degree of B. S., Santa Clara College, S. J., *W. S. Hereford, p. 32.* year 1874, also a regular graduate of the medical department of the University of Pennsylvania, year 1877; am a regular practitioner of medicine and surgery.

I entered the service of the Alaska Commercial Company, August, 1880, for the purpose of being one of the resident physicians on the seal islands, and was continuously in their employ until May, 1890, at which time I went into the employ of the North American Commercial Company in the same capacity until the latter part of August, 1891, having left by resignation. I was in the service of the Alaska Commercial Company almost ten years and with the North American Commercial Company about fifteen months, and had a total connection with the seal islands a little over ten years. Seal and seal life being the only and all-absorbing topic of conversation, business, food, etc., equally with the natives as ourselves, one naturally becomes almost as familiar with the fur-seals and their habits as a farmer would with those of the cattle and horses on his farm, or a hunter of the animals by whom he is surrounded in the woods, and by the killing of which he gains a livelihood, both as a means of sustenance and article of commerce.

In my capacity of physician and surgeon to the sealing companies, *i. e.*, the Alaska Commercial Company and the North American Commercial Company, I was stationed the first year, *i. e.*, 1880 and 1881, at St. George Island, and in 1881 and 1882 at Unalaska, at which time my duties required me to sail from Unalaska to Attu, Belkofskie, Atka, Unga, etc. I have been from Kadiak to Attu and have visited the way places between those points. I have also in the same capacity made three trips to St. Michaels, Norton Sound, one of which trips on account of the ice carried me over on to the Russian coast and as far north as the Bering Straits. I have also visited St. Matthews Island, though never having landed, passed by St. Lawrence Island, etc. After 1882 I was at St. Paul Island, with the exception of my vacations in San Francisco, Cal., until 1890 and 1891, when I was again placed on St. George Island. My knowledge is from personal observation and experience, as well as from conversation with the natives, having become more or less intimately acquainted with the language spoken by the natives of the islands.

William Hermann, being duly sworn, deposes and says: I am by occupation a seal and otter hunter. My present residence is in San Francisco. I have been engaged in seal and otter hunting eleven years in the Okhotsk Sea and the North Pacific. *Wm. Hermann, p. 445.*

Emin Hertz, being duly sworn, deposes and says as follows: That he is 42 years of age and a naturalized citizen of the French Republic; that he lives in the city of Paris and is a member of the firm of Emin Hertz & Cie.; that he has been engaged in the fur business for eighteen years, during which time he has been in the habit of purchasing seal-skins; that he has personally handled many thousands of said fur-seal skins, and that he has a general and detailed knowledge of the history of the

business of dealing in fur skins in the city of Paris, and the character and difference which distinguish the several kinds of skins which are on the market.

That the said firm of Emin Hertz & Cie has existed for ten years, being the successors of Goetze & Cie., who were established since 1873, trading in furs generally and dealing, ever since the establishment of the firm, in seal skins, undressed, dressed, and dyed; that their business is carried on at 11 Rue Dieu, in said city of Paris.

Arthur Hirschel, being duly sworn, says: I am 39 years of age, a British subject, and a resident of London, Eng-
Arthur Hirschel, p. 563. land. I am and for the past twenty years have been a member of the firm of Hirschel & Meyer, which transacts a general fur business at London, with branch establishments at Paris, Leipzig, Moscow, Shanghai, and elsewhere. About one-tenth part of the firm's business consists in dealing in fur-seal skins, of which about 15,000 are annually bought by it. I am familiar with the character and extent of the fur-seal industry in London, and I believe that the following data relating to it are correct.

Norman Hodgson, being duly sworn, deposes and saith: I reside at Port Townsend, State of Washington, and am a
Norman Hodgson, p. 366. fur-seal hunter by occupation. I have engaged in that pursuit four seasons, in the years 1887, 1888, 1889, and 1891. I sailed in vessels clearing from Port Townsend two seasons, and in others from Victoria, British Columbia, for two seasons.

Andrew J. Hoffman, p. 446. Q. What is your name, age, residence, and occupation?—A. My name is Andrew J. Hoffman; age, 24; residence, San Francisco; occupation, seal-hunter.

Q. Are you a citizen of the United States?—A. I am.

Q. What State are you a resident of?—A. The State of California.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea, and for how long?—A. I have been engaged in sealing there for three years last past.

E. Hofstad, being duly sworn, deposes and says: I reside at Sitka. My present occupation is that of a seal-hunter.
E. Hofstad, p. 260. Am at present mate of the sealing schooner *Clara*, of Sitka. Have hunted seal in the North Pacific Ocean for the past three years.

O. Holm, being duly sworn, deposes and says: I reside at Whatcom, Wash. I am part owner of the sealing schooner *Challenge*, and was on board of her last season in Bering Sea.
E. Holm, p. 368.

Edward Hughes, being duly sworn, deposes and says: I am 52 years of age, and I was born in Wales. I am a citizen of the United States, where I have resided for thirty-five years, of which twenty-eight years have been spent in Alaska. For eighteen years I have been cook or steward on board vessels doing business in the North Pacific and in Bering Sea, along the entire coast of Alaska from Sitka to Norton Sound and

all along and around the Aleutian Islands as far west as Attu Island, and also along the coast of Siberia as far as Plover Bay. In all those years I have met and talked with hunters, trappers, traders, and miners, whose business called them into Alaskan waters. * * * I have been steward and cook at the company's house for the lessees since 1882.

Imihap, being duly sworn, deposes and says that he is 65 years old, and a resident of Aguis. Certifies evidence given by Dick or Ehenchesut to be true. *Imihap, p. 308.*

Alferd Irving, being duly sworn, deposes and says: I am about 46 years old, and am a native Makah Indian, and reside on the Neah Bay Reservation, State of Washington, United States of America. My occupation is hunting and fishing, and I am one of the headmen of my tribe. I am master and one-half owner of the schooner *Mary Parker*. I have been engaged in hunting seals ever since I was old enough. *Alferd Irving, p. 386.*

Q. What is your name, age, residence, and occupation?—A. My name is Gustave Isaacson; age, 46; residence, San Francisco; occupation, hunting seals. *Gustave Isaacson, p. 439.*

Q. Are you an American citizen?—A. Yes, sir.

Q. Have you ever been engaged in the business of catching seals in the Pacific or Bering Sea?—A. Yes, sir.

Q. For how long a period?—A. I have been principally occupied in otter hunting at the beginning of the seasons; at short intervals I have been sealing.

Q. For how many years?—A. Since 1872; but principally from the other side, the Okhotsch Sea side; since 1884 on this side.

Q. Have you been master of vessels thus engaged?—A. Yes, sir; for eight years on the Japan side, and one year on this side.

Ishka, being duly sworn, deposes and says: My age is about 60 years. I am a native Indian of the Makah tribe, and reside on the reservation at the Neah Bay Agency, in the State of Washington, United States of America. I am by occupation a fisherman. I have hunted seals along the coast ever since I was old enough to do so. *Ishka, p. 387.*

Victor Jacobson, being duly sworn, deposes and says: I am 31 years of age, by occupation a seal hunter. I reside at Victoria, British Columbia. I am a British subject. Have been engaged in sealing for eleven years; ten years as master. Am now master and owner of schooner *Mary Ellen* and owner of schooner *Minnie*. I have sealed from Columbia River along the coast, north and west, to the Aleutian Islands, passages, and in Bering Sea. *Victor Jacobson, p. 328.*

Hugo Jaeckel, being duly sworn, says: I am 44 years of age, a citizen of the United States, and a resident of the city of New York. I am the present owner of the business which, since the year 1878, has been carried on in the city of New York under the name of Asch & Jaeckel. I have been in the fur business since I was 16 years old, and am now engaged in the wholesale manufacture of furs. I do a large business in fur-seal skins, and between 1885 and 1890 annually. *Hugo Jaeckel, p. 530.*

James Jamieson, being first duly sworn, deposes and says: I am 23 years old, and am by occupation a seaman; I reside at Victoria, British Columbia. In March, 1887, I joined the British sealing schooner *Mary Taylor*. * * * We went on a cruise for seal; I was a boat puller. * * * In January, 1888, I joined the *Mountain Chief*. * * * I was mate on this vessel. In January, 1889, I shipped as a boat steerer on the British sealing schooner *Theresa*. * * * In January, 1890, I shipped as a boat steerer on the sealing schooner *Mollie Adams*. * * * In January, 1891, I shipped as a seaman on the British sealing schooner *Mascot*. * * * I left the *Mascot* and joined the British schooner *Venture*. * * * I shipped as a seaman and hunter on the British schooner *Venture*. * * * In February, 1892, I joined the British sealing schooner *Minnie*.

Q. What is your name, age, residence, and occupation?—A. My name is Frank Johnson; age, 33; occupation, master mariner; residence, San Francisco.

Q. Are you an American citizen?—A. Yes, sir.

Q. Have you ever been engaged in the business of catching seals in the Pacific or Bering Sea?—A. Yes, sir.

Q. For how long a period?—A. About ten years, off and on. I have been off hunting some years; about half.

Q. Have you been master of vessels thus engaged?—A. No, sir; this will be my first time this year.

Q. What position did you occupy?—A. Hunter and mate two years.

J. Johnson, being duly sworn, deposes and says: I reside on Douglas Island, Alaska. I have spent six years of my life sealing. I have been sailing master of the schooner *San Diego*, the *Penlope* of Victoria, the *Ada* under the German flag, the *Roseoe* of San Francisco. Have been either master, mate, or hunter on all these vessels.

Jack Johnson, being duly sworn, deposes and says: I am 39 years old, and was born at Tongrass, and now live at Wrangel. Am a hunter by occupation, and have hunted fur-seal in Queen Charlotte Sound, using shotguns exclusively.

Selwish Johnson, being duly sworn, deposes and says: I am about 30 years old; am a native Makah Indian, and reside at Neah Bay, on the Indian Reservation, State of Washington, United States of America. My occupation is that of hunting and fishing. I have been engaged in catching seals ever since I was old enough to do so, and have always hunted with a spear.

Johnnie Jolntin, being duly sworn, deposes and says: I belong to Klawak, where I was born. Am now living at Shakan. Am by occupation a hunter; have been hunting seal and land animals since a boy; have always hunted seal off Prince of Wales Island in spring and early summer.

Personally appeared before me, Thomas N. Molloy, consul of the United States of America for Newfoundland, James Glavine Joy, master mariner of St. Johns, *Jas. G. Joy, p. 591.* aforesaid, who being duly sworn before me, upon his oath says: I have been twenty-four years prosecuting the seal fishery on the coasts of Newfoundland, Labrador, and Gulf of St. Lawrence, nine years of which I have commanded a steamer.

Kah-chuck-tee, being duly sworn, deposes and says: I am the chief of the Huchenoos. I am a pretty old man. I don't do anything; am the gentleman of my tribe. *Kah-chuck-tee, p. 248.* My tribelive bycatching herring, from which they make oil, and dispose of it to the Indians of other tribes, which come here in large numbers. I have visited all the inlets and islands in Chatham Sound and other parts of Alaska as far as Sitka.

Perey Kahiktday, being duly sworn, deposes and says: Am 48 years old; was born at and reside n Sitka. Have hunted seal every summer since I was a small boy. *P. Kahiktday, p. 261.* Have never been to Bering Sea.

Samuel Kahoorof, a native of Attu Island, 52 years of age, being duly sworn, deposes and says: I am a hunter of the sea-otter and blue fox, and have lived in this vicinity all my life. Have never hunted the fur-seal. Our hunting grounds are about Attu, Agattu, and the Semiehi Islands. *Saml. Kahoorof, p. 214.*

Philip Kashevaroff, being duly sworn, deposes and says. Am 47 years old; born at and reside in Sitka. Am by occupation a mariner. The last year I spent hunting seal on the schooner *Allie Alger.* *P. Kashevaroff, p. 261.*

Kaskan, being duly sworn, deposes and says: I belong to the Chilcat tribe of Indians. I have traded with other tribes up Lynn Canal and as far north as the Ynkon River, and down the coast as far as Wrangel. *Kaskan, p. 247.*

King Kaskwa, being duly sworn, deposes and says: I was born at Howkan, and reside there. Have lived there all my life, and am now a very old man, about 65 years old. My oecupation is that of a hunter. Have hunted fur-seals thirteen years or more. Have always hunted them in Dixons Entrance and off Prince of Wales Island between March and June. *King Kaskwa, p. 295.*

Jim Kasooh, being duly sworn, deposes and says: I was born at Howkan and have lived there all my life. Am about 45 years old. I am by oecupation a hunter. Have hunted fur-seal for eight years. Always hunted in Dixons Entrance and off Prince of Wales Island in May and June. *Jim Kasooh, p. 296.*

James Kean, having been duly sworn, deposes and says: I reside in Victoria, British Columbia; my occupation is that of a seaman and seal hunter. I first went seal-hunting in 1889 on the schooner *Oscar and Hattie*.

Jas. Kean, p. 448.

* * * In 1890 I went out in the *Walter Rich*.

Albert Keetnuck, being duly sworn, deposes and says: I am 27 years old. Was born and live at Killisnoo. Make her-

Albert Keetnuck, p. 250. ring oil, cut wood, and grow potatoes and turnips.

The herring oil I make I sell to other Indians, and the potatoes and turnips I dispose of to the white men around the sound, and sell the wood to the fish company. My business calls me away from this place to the different inlets and islands around Chatham Sound. * * * The Indians who buy my fish oil belong to tribes who live long distances away.

James Kennedy, having been duly sworn, deposes and says: I am now residing in San Francisco. My occupation is that of a sailor. I went to the North Pacific

Jas. Kennedy, p. 449.

and Bering Sea on the schooner *Maggie Ross*, of which Captain Olsen was master, in the early part of May, 1884. I shipped as a boat-puller.

Mike Kethusduck, being duly sworn, deposes and says: Am 50 years old; was born at and reside in Sitka; am by oc-

*Mike Kethusduck, p. 262.*cupation a hunter; have hunted seals every season since I was a small boy.

George Ketwooschish, being duly sworn, deposes and says: Am 30 years of age; born in and have lived at Killisnoo

*Geo. Ketwooschish, p. 251.*all my life. Belong to the Thlinket tribe of Indians. I am a herring fisherman by occupation.

I make herring oil which I sell to the people of other tribes along the coast. They come a long distance to buy it of me. I visit all the islands and rocks in following my business, in Chatham Sound.

Kickiana, being duly sworn, deposes and says: That he is 20 years of age; is a native of Sechart village, and a son of Clat-ka-koi. Last year he went north in the

Kickiana, p. 306.

schooner *Ariel*, and spent one and one-half months

in Bering Sea.

[Kickiana understands and speaks English fairly well.]

James Kiernan, having been duly sworn, deposes and says: I am a master mariner by profession, and a resident of

Jas. Kiernan, p. 449.

California. I have been engaged in seal hunting since 1843. My first voyage was from Newport,

R. I., to the east coast of South America, at Lobos Island, off the mouth of the river Platte, at Castillos Island, and on the east coast of Patagonia. Afterwards I went to the Falkland Islands, to the South Shetland Islands, and to the west coast of Patagonia. In those days we killed the seals on land with clubs, but all those rookeries have since been destroyed through the constant hunting of the seals. Afterwards I came to California and made my first seal-hunting voyage in the North Pacific in 1868, and in more recent years in Bering Sea. I have given much attention to the study of seal life, as well as to the methods of

hunting in the sea, and the consequent effect of this upon the possible extermination of the seal. * * * The last vessel I went out in was the *Sophie Sutherland*, during the season of 1891. I went as sailing master.

Louis Kimmel, being duly sworn, deposes and says: I am a resident of Lafayette, Ind., and am 63 years of age. During the years 1882 and 1883 was the assistant Treasury agent, located on the St. George Island, of the Pribilof group. I arrived on the island May 31, 1882, and remained there continuously until the latter part of July, 1883. *Louis Kimmel, p. 173.*

While on the island I studied the habits of the fur-seals in order that I might be able to perform my official duty.

Francis Robert King-Hall, being duly sworn, deposes and says: I am a subject of Her Britannic Majesty, late of the Eleventh Hussars, a son of Sir William King-Hall, K. C. B., admiral in the British navy. I am 35 years of age, a journalist by profession, residing in New York City. In 1891, as a correspondent of the New York Herald, I was detailed to investigate into the methods of pelagic sealing. I proceeded to Victoria, arriving about the 25th of June, and procured passage on board the sealing schooner *Otto*. *Francis R. King-Hall, p. 352.*

Kinkooga, being duly sworn, deposes and says: I was born at Yakutat and have lived there all my life. I am about 40 years old, I think. By occupation I am a hunter; have killed a few fur-seal in my life. *Kinkooga, p. 240.*

Charlie Klananek, being duly sworn, deposes and says: I was born at Sitka, and am now a very old man; have lived at Wrangle twenty years; have been a hunter all my life. A long time ago I hunted seal with a spear, but of late years have used the shotgun. *Charlie Klananek, p. 263.*

James Klonacket, being duly sworn, deposes and says: I was born at Klinquai, and have lived at Howkan a great many years. I am now a very old man and am a hunter by occupation; have hunted fur-seal for twelve seasons off Prince of Wales Island. *Jas. Klonacket, p. 283.*

Konkonai, being duly sworn, deposes and says: I am one of the headmen of the tribe of Neltuskin village; am 60 years of age; was born at and have lived at Killisnoo all my life; have always made it my business to catch herring and make oil, which I have disposed of to Indians of other tribes, who come a long distance to buy it. *Konkonai, p. 251.*

Robert Kooko, being duly sworn, deposes and says: I was born in Victoria, British Columbia; moved from Victoria to Howkan, Alaska, when I was a small boy; have hunted fur-seal for three years in Dixons Entrance and off Prince of Wales Island in the month of May. *Robert Kooko, p. 296.*

Frank Korth, being duly sworn, deposes and saith: I reside at Port Etches, Prince William Sound, Alaska, and have lived in the Territory for the last eight years. I am the agent for a fur-trading company at this *Frank Korth, p. 235.*

place, but never had any personal experience in fur-seal hunting. I am, however, well acquainted with the coast of Alaska from Prince William Sound to Unimak Pass.

Jacob Kotchooten, being duly sworn, deposes and says: I am a native of St. Paul Island, Alaska, and I am 40 years of age. I am a native sealer, and have worked among seals on St. Paul Island all my life.
Jacob Kotchooten, p. 131.

John Kowineet, being duly sworn, deposes and says: Am 48 years old; born at and reside in Sitka; occupation, a hunter; have hunted seals every season since I can remember.
John Kowineet, p. 263.

C. F. Emil Krebs, having been duly sworn, deposes and says: I am a native of Libau, Russia, 49 years old, and an American citizen, duly naturalized, and a resident of San Francisco, Cal. I first went to Alaska in 1869 for the American-Russian Commercial Company of San Francisco, and was stationed at Atka as a fur-trader, where I remained two years. In 1871 I entered the service of Hutchinson, Kohl & Co., lessees from Russia of the right to take seals upon the Commander Islands, and was placed in charge of Copper Island of this group, and so remained constantly for ten years, until 1881, without once leaving my post of duty. In this position the habits of the seals, the condition of the rookeries, the best methods of obtaining seal-skins for market, and, in general, everything in and about the business of my employers on the island, received my careful and constant attention.

Personally appeared before me, Ivan Krukoff, who, being duly sworn, deposes and says: I am 46 years of age, a native of the Aleutian Islands, and have lived in the village of Makushin all my life.
Ivan Krukoff, p. 208.

Nicoli Krukoff, being duly sworn, deposes and says: I am 43 years of age, and was born at Sitka, Alaska. I can read and speak the Russian, Aleut, and English languages. I came to St. Paul Island in 1869, and have been here ever since, constantly employed among the fur seals, and I have had daily experience in all the branches of the business, from driving the seal to preparing the skins for shipment, and I am at present the second chief on St. Paul Island, to which position I was appointed in 1891.
Nicoli Krukoff, p. 132.

Aggie Kushin, being duly sworn, deposes and says: I was born at Simshoe, Kurile Islands, and am 37 years of age. I came to St. Paul Island in 1867, and have resided here ever since. I can read and write in the Russian and Aleut languages, and am able to interpret the one into the other; and I understand the English language fairly well. At present and for several years past I am assistant priest in the Greek Catholic Church. My occupation on the island is that of native sealer, and I have been such since 1870. I have a thorough knowledge of the taking of fur seals for skins in all its details as it has been done on St. Paul Island since 1870.
Aggie Kushin, p. 128.

Olaf Kvam, being duly sworn, deposes and saith: I reside on Green Island, in Prince William Sound, Alaska, and have lived in the Territory for the last 10 years. *Olaf Kvam, p. 235.* I am a mariner by occupation, but of late years have been engaged in hunting fur-bearing animals.

George Lacheek, being duly sworn, deposes and says: Am 40 years of age; born at and live in Sitka. Am by occupation seal-hunter in summer and deer-hunter in winter. Have hunted seal every season since a small boy. Have always hunted off Sitka Sound. *George Lacheek, p. 264.*

James Laflin, having been duly sworn, deposes and says: I am 60 years of age. I have resided in San Francisco the last forty-two years. I am by occupation shipping agent for the last fifteen years, and fit out all the whaling fleet that leave this port. All the men go through my office. Have fitted out forty-seven whalers this year and have three more in port to be fitted out. I also fit out sealing schooners—about twelve to fourteen each year. I have also owned one third interest as managing owner in two sealing vessels. I handle and pay off over 1,600 seamen each year in the whaling fleet alone. I also handle and ship a great many men on the sealing vessels. I often converse with the masters of the vessels relative to the fur seal. *James Laflin, p. 451.*

Andrew Laing, being duly sworn, deposes and says: I am 42 years of age; residence, Victoria, British Columbia; occupation, trader. I went out as trader on the *W. P. Sayward*, of which I was part owner, in the years of 1882, 1883, 1884, 1885, 1886, 1887, 1889, and 1890. In 1888 I went as mate on the *Favorite*, my boat having been seized the year before by the revenue cutter *Rush*, but was finally released, so that I went in her again in 1889 and 1890. * * * Prior to 1886 I nor my vessel had ever been in the Bering Sea hunting, but had cruised along the coast each year from the Columbia River to Kadiak Island, and then returned to Victoria and had caught seals in greater or less numbers each year; but in 1886 and each year thereafter, excepting 1891, I have not only sealed on the coast, but have also been in the Bering Sea hunting seals. *Andrew Laing, p. 334.*

My vessel went to the Bering Sea in 1891, but I did not go with her.

Sir George Curtis Lampson, baronet, being duly sworn, doth depose and say: (1) That he is 58 years of age and a subject of Her Britannic Majesty. That he is the son and successor of the late Sir Curtis Lampson, baronet, who founded the house of C. M. Lampson about the year 1830. That deponent is at the present time the head of the firm of C. M. Lampson & Co., doing business at 64 Queen street, in the city of London. That the business of said firm is that of commission merchants, engaged in selling and in buying on commission fur skins of various kinds. That his said firm now handle and for many years last past have handled a greater number of skins of fur-seals than all the other firms in the world put together, and that he has a general knowledge of the character of the business of buying and selling fur-seal skins. That his partner, Mr. Emil Teichmann, has a more detailed and technical knowledge of the business than deponent, and can depose in respect to the technical aspects of the business in more detail and with greater accuracy than deponent would wish to do. *Sir G. C. Lampson, p. 564.*

* * * Capt. A. W. Lavender, * * being duly sworn, deposes and says: I am 49 years of age, a citizen of the United States, and a resident of Scotland, South Dakota. I am now, and have been for two years past, employed as special agent of the Treasury Department, assigned to duty as agent in charge of St. George Island.

Edward Nighl Lawson, being duly sworn, deposes and saith: I reside at St. Pauls, Kadiak Island, Alaska, and have lived in the Territory for the past twelve years. I am a sea-otter hunter by occupation and am well acquainted with the northwest coast from San Francisco to Unalaska.

In the years 1878 and 1879 I was employed as a fur-seal hunter on board the schooners *Favorite* and *Onward*, respectively, both of Victoria, British Columbia; and in the years 1884 and 1885 I was engaged in the same capacity on the schooners *Teresa* and *San Diego*, respectively, both hailing from San Francisco, Cal.

Isaac Lenard, being duly sworn, deposes and saith: I reside at Belkofsky, Alaska Territory. I have been a sea-otter hunter for forty years, and have occasionally raided the Russia sea islands.

James E. Lennan, being duly sworn, deposes and saith: I reside at Port Townsend, State of Washington, and am by occupation master and pilot of steam vessels in the waters of the Pacific Ocean coastwise to the Bering Sea. I have had eighteen years' experience in the waters of Alaska, and am well acquainted with the Northwest Coast from San Francisco to Attu Island, including Bering Sea and its coast line. I have sailed as master of trading and supply vessels for a number of years in Alaska, and in the year 1887 was master of a sealing schooner clearing from Victoria.

George Liebes, having been duly sworn, deposes and says: My age is 25. I reside in San Francisco. I am a furrier and dealer in dressed and raw furs by occupation. I have been engaged in that business for the last six years. I have been going to Victoria for the last two years for the purpose of buying both land and sea furs. In 1890 I examined 14,000 fur-seal skins that were brought down on a tender from Sand Point, Alaska.

Herman Liebes, being duly sworn, says: First. That he is 50 years of age and resides in the city of San Francisco, Cal. That he has been in the fur business since he was 13 years of age, and established in his own business in San Francisco in the year 1864. That he first began to buy seal-skins in the year 1865.

Isaac Liebes, having been duly sworn, deposes and says: I reside in San Francisco, Cal. I am, and have been for the last twenty-three years, by occupation a fur merchant, during which time I have handled more raw fur-seal skins than any other individual in the United States or Canada, and more than any firm or corporation except the lessees of the sealeries of the Pribilof and Commander islands. I claim to be thoroughly acquainted with all kinds of seal-skins, and from all the different localities, and can readily

distinguish one from the other. I am also thoroughly familiar with the mode of capturing the seals, both on land and in the water, and in handling, packing, and shipping the skins. My business as a manufacturer of furs has also made me equally familiar with the dressed and dyed seal-skins. The greater part of the raw seal-skins which have passed through my hands were from seals captured at sea, and it is with this feature of seal-hunting that I am more especially familiar. I speak from personal observation and experience in describing the marine sealing fleet and the business of marine seal-hunting.

Sidney Liebes, having been duly sworn, deposes and says: My age is 22. I reside in San Francisco, and am by occupation a furrier, having been engaged in that business for the last six years. I have made it my business to examine raw seal-skins brought to this city for sale, and am familiar with the different kinds of seal-skins in the market. I can tell from an examination of a skin whether it has been caught on the Russian or American side. *Sidney Liebes, p. 516.*

James Lighthouse, being duly sworn, deposes and says: I am a native Indian of Makah tribe, and reside at Neah Bay, on the Indian Reservation, in the State of Washington, United States of America. I am about 55 years of age, and my occupation is that of hunting and fishing. I am the owner of the schooner *C. C. Perkins*. I have been engaged in sealing and fishing ever since I was old enough to do so. * * * I have always sealed in the Strait of San Juan de Fuca, and around Cape Flattery, and up and down the coast from Barclay Sound to the Columbia River. I commenced going north to Barclay Sound about ten years ago. *Jas. Lighthouse, p. 389.*

Caleb Lindahl, having been duly sworn, deposes and says: I am 46 years of age. I reside in San Francisco. My occupation is that of a sealer. I first went sealing in the Bering Sea in 1890 on the *Mattie T. Dyer*. I was employed as a hunter. *Caleb Lindahl, p. 456.*

E. W. Littlejohn, being duly sworn, deposes and saith: I reside at San Francisco, Cal. I am a sea-otter and seal hunter by occupation, and am now master of the schooner *Pearl*, which is engaged in sea-otter hunting. I have had eight (8) years experience in this pursuit in the waters along the Alaskan coast. *E. W. Littlejohn, p. 457.*

John N. Lofstad, having been duly sworn, deposes and says: I am 48 years of age. I reside in San Francisco. I am by occupation a dealer in furs and fur goods. I have been in the business for twenty-eight years, during which time I have bought large numbers of dressed and undressed fur skins, and I am thoroughly familiar with the business. *John N. Lofstad, p. 516.*

William H. Long, being duly sworn, deposes and says: I am by occupation a seaman, and have followed the sea for the last fifty years. I have been mate and master of vessels. For the last four years I have not been to sea. In 1885 I was hunter on board the schooner *Lookout*; *William H. Long, p. 457.*

in 1886 I was mate of her; in 1887 I was master of her. I was engaged during these years in seal and otter hunting in the Bering Sea.

Abial P. Loud, being duly sworn, deposes and says: I am a resident of Hampden, Me., and am 55 years of age. On April 4, 1885, I was appointed special assistant Treasury agent for the seal islands, and immediately started for the islands, arriving at the island of St. Paul on May 28 or 30. Spent that season on St. Paul Island, and returned for the winter to the States, leaving the islands on the 18th of August. Went back again next spring, arriving there in the latter part of May, and remained until August, 1887, on St. Paul Island. Spent the season of 1888 and 1889 on St. George Island, returning in the fall of 1889 to the States. In 1889 I spent some time in the fall on St. Paul Island. On whichever island I was located I always kept careful watch and made frequent examination of the rookeries during this entire period.

Thomas Lowe, being duly sworn, deposes and says: I speak the English language fairly well, and can interpret the Chinook and Indian languages. I am a half-breed Indian and belong to the Challam tribe, and am 30 years of age. I reside on Whidby Island, and am by occupation a hunter and have been engaged in hunting seals for the last eight years. I went to the Bering Sea in 1889, on the schooner *James G. Swan*, and again in 1891 on the schooner *Lottie*. These two seasons are the only ones in which I have been in the Bering Sea. During the other seasons I sealed in the Strait of San Juan de Fuca and along the coast between the Columbia River and the northern end of Vancouver Island.

Q. What is your name, age, residence, and occupation?—A. My name is Charles Lutjens; I am 50 years of age; I reside in this city, and am by occupation a seal hunter.

Chas. Lutjens, p. 458. Q. Are you a citizen of the United States?—A. Yes, sir.

Q. What State are you a resident of?—A. The State of California.

Thomas Lyons, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of a seaman. On the 24th of February, 1887, I left the port of Victoria, British Columbia, on a sealing voyage to the North Pacific and Bering Sea. I went on the schooner *Triumph*, of which Capt. Cox was master. I was engaged as a boat-puller.

George McAlpine, being duly sworn, deposes and says: I reside at Juneau. Spent the last season on the *Allie I. George McAlpine*, p. 266. *Alger*, hunting seal, as boat-steerer.

Charles E. McCleunen, being duly sworn, says: I am 36 years of age, a citizen of the United States, and a resident of Albany, in the State of New York. I am a director in the George C. Treadwell Company, the corporation referred to in the affidavit of George H. Treadwell, verified this day. I have been in the fur business for about eight years, and during that time I have handled many fur-seal skins in all their conditions.

J. D. McDonald, being duly sworn, deposes and says: I reside at Sitka. Own and command the sealing schooner *Adventure*. Am by occupation a miner and hunter. Have been engaged in sealing two years. Have hunted from San Francisco to Kadiak. *J. D. McDonald, p. 266.*

H. H. McIntyre, of Randolph, Orange County, Vt., on being duly sworn, deposes and says, concerning the fur-seals of Alaska, and matters relative thereto, as follows: *H. H. McIntyre, p. 40.* I am a native of Vermont, 48 years old, commissioner from Vermont to the World's Columbian Exposition of 1893, etc. In the years 1868 and 1869 I was special United States Treasury agent, assigned to duty in Alaska, and from 1870 to 1889, inclusive, superintendent of the seal fisheries of Alaska for the lessees. I spent ten months as special Treasury agent, from November, 1868, to August, 1869, in inquiry concerning the fur-seal fisheries then recently acquired from Russia, with a view to advising the Government of the United States what disposition should be made of them, and to this end visited all the principal points along the northwest coast of the American continent from Vancouver's Island to the most westerly island of the Aleutian Archipelago, the Pribilof group, and points along the Bering Sea coast.

As superintendent of the seal fisheries I visited the seal islands twice in the summer of 1870; remained constantly thereon from April, 1871, until September, 1872, and thereafter went to the islands every summer from 1873 until 1889, inclusive, excepting 1883, 1884, and 1885. I usually remained on the islands about four months, from May until August, in each season, supervising the annual seal catch, examining the conditions of seal life, studying the habits of the seals, and, in brief, doing such work as the interests of the lessees seemed to demand. I also went twice to London, first in 1872 and again in 1886, to attend the fur-seal trade sales, with a view to becoming more thoroughly acquainted with the demands of the seal-skin market. My duties as such special Treasury agent and superintendent demanded and received my attention to every detail of seal life and its relation to commerce. In the execution of these duties I was constantly aided by able, intelligent assistants and native seal hunters, whose daily observations and reports were from time to time communicated to me.

H. W. McIntyre, having been duly sworn, deposes and says: I am an American citizen, a native of the State of Vermont; my age is 57 years; I am a resident of Vina, Tehama County, California, and by occupation general manager of Senator Leland Stanford's Vina ranch and Palo Alto vineyard. In the year 1871 I entered the service of the Alaska Commercial Company, and was assigned to duty at the Pribilof group of islands in Bering Sea, first in the capacity of chief mechanic, and later as resident agent in charge of the island of St. Paul. *H. W. McIntyre, p. 134.*

I left San Francisco for Alaska early in April of 1871, and arrived at St. Paul Island about the beginning of May the same year, on which island I resided continuously until the close of the sealing season of the year 1881, leaving there in the month of August, except that I was absent on leave during a portion of the winter season in 1874, 1877, and 1880. During the period of my residence I visited the islands of St.

George, Unalaska, and other principal stations of the Alaska Commercial Company in Bering Sea and the North Pacific, and obtained through observation and from information very accurate knowledge of the fur-seals and their habits while upon or near the islands which constitute their breeding place.

During my long and constant residence I became interested in all matters pertaining to the welfare of the people residing upon the islands, and have since, through an extensive acquaintance with agents and employés of the lessees, been constantly advised as to events transpiring there from year to year.

William McIsaac, having been duly sworn, deposes and says: I am a sailor, and reside at San Francisco. I went to the Bering Sea in the American schooners *Alexander* and *Otter* in the years 1889 and 1890. * * * I was employed as boat steerer and puller.

James McKeen, being duly sworn, deposes and says: I reside at Sitka, and am by occupation a seaman and seal hunter. Have been engaged in catching seals the last five years, most of the time as captain of a schooner.

William McLaughlin, having been duly sworn, deposes and says: I reside in San Francisco; my occupation is that of a seaman. I shipped as a boat puller in 1886 on the schooner *Triumph*. * * * In 1887 I went codfishing in the barkentine *Premium* to the Bering and Okhotsk Seas. * * * I went to the Bering Sea on the *Maggie Ross* from Victoria. * * * I shipped as a boat puller.

Q. What is your name, age, residence, and occupation?—A. My name is Alexander McLean; age, 32; residence, San Francisco; occupation, master mariner.

Q. Are you an American citizen?—A. I am.

Q. Have you ever been engaged in the business of catching seals in the Pacific or Bering Sea?—A. I have.

Q. For how long a period?—A. Ten years.

Q. Have you been master of vessels thus engaged?—A. I have been nine years in the sealing business.

Q. What is your name, age, residence, and occupation?—A. My name is Daniel McLean; age, 43; occupation, master mariner; residence, San Francisco.

Q. Are you an American citizen?—A. Yes, sir.

Q. Have you ever been engaged in the business of catching seals in the Pacific or Bering Sea?—A. Yes, sir.

Q. For how long a period?—A. Eleven years.

Q. Have you been master of vessels thus engaged?—A. Eleven years.

The undersigned, Robert H. McManus, of the city of Victoria, province of British Columbia, Dominion of Canada,

being duly sworn, saith: I am about 49 years of age, and have for some years past followed the calling of newspaper correspondent and writer.

In 1889, at the time the British sealing schooners were seized in the

Bering Sea by the United States revenue cutters, I devoted some attention to the sealing industry. Being acquainted with Mr. Walter Borns, through his being a boarder in my family, and who is largely identified with the sealing industry, I was by him earnestly solicited to accompany him on a sealing cruise on board his schooner *Otto* last season. Some time previously I had a severe attack of rheumatic gout, and was at the time of solicitation by Mr. Borns partially convalescent. I was advised that the voyage would tend towards the recovery of my health and the inducement of an opportunity to gain by personal observation all that could be learned of the seal-hunting question, which I would be enabled to turn to pecuniary account as a newspaper correspondent, determined my acceptance of the proposal, although the pecuniary offer of Mr. Borns was merely trivial. I was very weak and feeble, and had to be assisted on board the vessel. Mr. F. King-Hall, correspondent of the New York Herald, was, with my consent, taken on board as a passenger.

Thomas Madden, having been duly sworn, deposes and says: I reside in Victoria, British Columbia. My occupation is that of a seaman. I have been going to the Bering Sea over twelve years on whalers and sealers. I went sealing in 1888, 1889, 1890, and 1891 on the *Black Diamond*. We left Victoria along in January of each year. I was a boat puller. *Thos. Madden, p. 462.*

Edward Maitland, being duly sworn, deposes and says: I was born in British Columbia. I reside now in New Metlakatla. Am 31 years old. I have been a hunter all my life. Have hunted seal in a canoe; my lodge was on Dundas Island, and I hunted in Queen Charlottes Sound and Dixons Entrance. *Edwd. Maitland, p. 284.*

Makeshow, being duly sworn, deposes and says that he is a resident of this village and that the evidence given by Weekenunesch is true. *Makeshow, p. 311.*

John Malowansky, being duly sworn, deposes and says: I am a resident of San Francisco, Cal., and an American citizen, though a Russian by birth. I am a merchant by profession, and am agent for the Russian Sealskin Company, and was formerly, for many years, the agent for Hutchinson, Kohl, Phillipeus & Co., the former lessees of the Russian seal islands. *John Malowansky, p. 197.*

During the years 1869, 1870, and 1871 I resided on the Commander Islands, in the pursuit of the sealing business, of which I had charge. I was there again in 1887 as the agent of the company. I formerly lived in Kamchatka, and frequently visited the Commander Islands between 1871 and 1887. I have also been a dealer in furs. I am well acquainted, from long experience and observation, with all matters pertaining to the sealing business and the present condition of the fur-seal trade, especially on the Russian side of the Bering Sea.

James Maloy, having been duly sworn, deposes and says: I am 50 years of age. I reside in San Francisco. My occupation is that of a seaman. I was in the North Pacific and Bering Sea in 1889. I went out in the *Maggie Ross*, which sailed from Victoria in the month of February. *Jas. Maloy, p. 463.*

Q. State your age and place of residence.—A. I am 34 years of age and am a native and resident of St. Paul Island, Noen Mandregin, p. 139. Alaska.

Q. What is your occupation?—A. I am a sealer, formerly in the employ of the Alaska Commercial Company, and now in the employ of the North American Commercial Company.

John Margathe, being duly sworn, deposes and says that for 23 years he has resided on the west coast of Vancouver Island, Victoria, Barclay Sound, etc., and that at present he owns a store in Uchnlet, Barclay Sound, and is the only white man residing in same. John Margathe, p. 308.

Patrick Maroney, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of a seaman; I made two voyages to the North Pacific and Bering Sea. In 1889 I went out in the *May Ellen*, of which Capt. Alex. McLean was master, and in 1890 I went out in the *Lizzie Ellen*. I was a boat puller on both voyages. Patrick Maroney, p. 464.

Charles Martin, being duly sworn, deposes and says: I was born at Klingnan and reside there; am 30 years old, and my occupation is that of a hunter. Have hunted fur-seal ever since I was a boy; always hunt in Dixons Entrance and around Prince of Wales and Queen Charlottes islands. Chas. Martin, p. 297.

Walter Edward Martin, being duly sworn, doth depose as follows: First. That he is 40 years of age, a subject of Her Britannic Majesty, and lives in the city of St. Albans, and carries on business at 4 Lambeth Hill, in the city of London; that he is the head of the firm of C. W. Martin & Sons, who are the successors of the firm of Martin & Teichmann, which firm was composed of deponent's father, C. W. Martin, and Emil Teichmann, who is now a member of the firm of C. M. Lampson & Co., of the city of London; that the said firm of C. W. Martin & Sons is engaged in the business of dressing and dyeing furs of all kinds; that they have until the last year and have for many years last past dressed and dyed a larger number of skins of the fur-seal than all the other firms in the world together; that deponent has made no examination of the books of his firm for the purpose of seeing precisely the number of skins annually dressed and dyed by his said firm and its predecessor, but it is the fact that his said firm in one year dressed 150,000 fur-seal skins, and of that number dyed 130,000, and it is also the fact that until within the last two years his firm dressed upwards of 110,000 or 120,000 skins in each year, and dyed upwards of 100,000 skins so dressed. Walter E. Martin, p. 567.

That deponent has been in the business of dressing and dyeing fur-seal skins about twenty-two years; that he has personally handled many hundreds of thousands of such skins, and that he has a detailed and specific knowledge of the character of the various sorts of seal-skins and of the markets therefor, and that he has also a general knowledge of the history of the seal-skin business during the whole of that period.

Frederick Mason, being duly sworn, deposes and says: I am 32 years old. Was born in British Columbia, and now reside at New Metlakahltla. Am a hunter by occupation; have hunted fur-seal in canoes since I was a boy. * * * My hunting lodge has always been on Nicholas Bay, and I have hunted in Queen Charlotte Sound, Dixons Entrance, and off Prince of Wales Island. *Frederick Mason, p. 284.*

Henry Mason, having been duly sworn, deposes and says: I am 43 years of age and reside in San Francisco. My occupation is that of a seal hunter. I went sealing on the *Umbrina* in 1891. * * * In 1890 I went sealing in the schooner *Argonaut*. *Henry Mason, p. 464.*

William Mason, having been duly sworn, deposes and says: I am a seaman by occupation, and I reside in Victoria, British Columbia. I made a sealing cruise in the British schooner *Maybelle*, Capt. Hanson, during the season of 1891, leaving Victoria in the latter part of January. I was a boat puller. *Wm. Mason, p. 465.*

Thorwal Mathasan, being duly sworn, deposes and says: My name is Thorwal Mathasan; my age is 39 years; occupation, seaman; I reside at Victoria, British Columbia. I went sealing in 1891 in the *Oscar and Hat-tie*, * * * as a boat puller. * * * I went sealing again on the 28th of January, 1892, in the same vessel. *Thorwal Mathasan, p. 339.*

Personally appeared before me S. Melavidoff and David Salamatoff, who, being duly sworn, depose and say: We are natives of Alaska, are now and have been for the past twenty years residents of Unalaska. * * * I, S. Melavidoff, am 53 years of age. I, David Salamatoff, am 67 years of age. *S. Melavidoff and D. Salamatoff, p. 209.*

Q. State your age and place of residence.—A. I am thirty-six years of age; have resided on St. Paul Island, Alaska, for the past twenty-four years. *Anton Melovedoff et al., p. 138.*

Q. What is your occupation?—A. I am a sealer; formerly in the employ of the Alaska Commercial Company, and now in the employ of the North American Commercial Company.

Q. Has your occupation been such as to give you an opportunity to notice from year to year the condition of the rookeries and the peculiarities of seal life?—A. Yes; I was chief for about ten years, and during that time had charge of the drives and have always participated in the killing of the seals.

Anton Melovedoff, being duly sworn, deposes and says: I am thirty-eight (38) years of age and was born on Kadiak Island, Alaska. I came to St. Paul Island in 1864, the first time, and in 1869 the second time. I have resided here since 1869 and I have been constantly employed among the Alaskan fur-seals in all that time. I have had a large and varied experience in all the details of the business as it has been carried on on St. Paul Island, and I have done service in all the depart- *Anton Melovedoff, p. 142.*

ments from the work of a boy to that of First Chief of the Island. I can read and write the English, Russian, and Aleut languages and I can interpret them into one another. I have read a considerable amount of the controversies on the Seal Question since the seals began to decrease so rapidly on the rookeries and I have observed the rookeries and their daily condition since I became First Chief in 1884, which office I resigned in 1891.

Simeon Melovidov, being duly sworn, deposes and says: I am twenty-five years of age, and I was born at Sitka, Alaska. I came to St. Paul Island in 1857, and resided here ever since. I have a practical knowledge of and am familiar with the fur-seal industry as it is carried on on St. Paul Island. I became an able scaler in 1879, and worked at it ever since, except in the winters, when I was at school. I have driven seals and skinned them and prepared the skins for shipment. I am at present the school teacher on St. Paul Island, and I can read and write English and Russian, as well as the Aleut language.

Robert Michaelsen, being duly sworn, deposes and saith: I reside at the settlement known as Soldovoi, on Cook's Inlet, Alaska, and have lived in the Territory for the past ten years, chiefly at settlements along the coast between Sitka and Cook's Inlet. I am a miner and prospector by occupation, and have never had any experience in sealing. I have become well acquainted with the coast while engaged in my business of prospecting, traveling along it in a canoe, and entering all bays, inlets, streams, etc., between the points above mentioned.

Amos Mill, being duly sworn, deposes and says: I was born in British Columbia; I am about 50 years old, and now reside in New Metlakahtla; have been a hunter all my life; have hunted fur-seal in canoes; my lodge is on Dundas Island, and I hunt off Prince of Wales' Island, in Queen Charlotte's Sound, and Dixon's Entrance.

N. B. Miller, an assistant in the scientific department of the United States Fish-Commission steamer *Albatross*, being duly sworn, deposes and says: I visited the Reef rookery and Northeast Point rookery on St. Paul Island, Pribilofs and the Village rookery of St. George Island, Pribilofs, and took a number of photographs on each. * * *

I have made five cruises in Alaskan waters, viz: In the year 1888, along the coast from Unalaska to Middleton Island; in the year 1889, through the inland passages of southeastern Alaska as far north as Chilkoot Inlet; in the year 1890, through the Bristol Bay region and the Aleutian Islands as far west as Unimak Island; in the year 1891, to the Pribilof Islands in Bering Sea; and in the month of April, 1892, in the Gulf of Alaska from Kadiak Island to Prince William Sound, going into Cook Inlet as far as Coal Harbor.

G. E. Miner, being duly sworn, deposes and says: I am a seal hunter by occupation; have been engaged for the past five years in sealing, always as hunter. * * * Am at present hunter on the schooner

Henry Dennis.

Metry Mouin, Nicoli Noojook, Stephan Tooehyk, Alexy Mahagak, Tekan Ivanoff, Alexander Kamlook, Peter Charashook, Stephan Apavelook, Alexy Abakce, Simon Tanapee, Nicoli Kashagak, Tekan Kookew, Pavel Abanyngaw, and Peter Abangae, being duly sworn, depose and say: That we are natives of Alaska, and reside at the settlement of Fort Alexander, Cook's Inlet, Alaska Territory. We are, by occupation, hunters of fur animals, excepting the fur-seal, and have been engaged in this pursuit all our lives, chiefly in this neighborhood.

Q. What is your name, age, residence, and occupation?—A. My name is Frank Moreau; age, 32; residence, San Francisco; occupation, seal hunter. *Frank Moreau, p. 467.*

Q. Are you a citizen of the United States?—A. I am.

Q. What State are you a resident of?—A. Kentucky; I was born there; I am now residing in the State of California.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea, and for how long?—A. For five or six years I have been catching seals.

Eddie Morehead, having been duly sworn, deposes and says, I am 21 years of age; I reside in San Francisco; my occupation is that of a longshoreman. I have been employed on a sealing vessel as a cabin boy and boat-puller. I made one voyage on the *Vanderbilt* in the North Pacific in 1888. *Eddie Morehead, p. 467.*

Thomas F. Morgan, being duly sworn says, I am 44 years of age, and reside in the town of Groton, Conn. In 1868 I shipped as second mate of the bark *Peru*, owned by the firm of Williams & Haven, of the city of New London, Conn., which vessel was commanded by my father, Capt. Ebenezer Morgan, and sailed on that bark from Honolulu about the 27th day of February, 1868, for the purpose of catching seals on the islands in Bering Sea, Williams & Haven having for many years been engaged in seal fisheries, and being, so far as I know, the largest firm in the United States engaged in that business. We sailed to the port of Sitka, and there applied to the commander, Gen. Jefferson C. Davis, for permission to land the cargo of the bark on the Pribilof Island and take seals on those islands. At the end of the season I remained on the island of St. Paul, one of the said Pribilof Islands, until August, 1869, as a representative of Williams & Haven's interests in and about the said island. In the last-mentioned year I returned to this country, and at the request of the Alaska Commercial Company, of which Williams & Haven were stockholders, I was employed in the year 1874 to return to the Pribilof Islands as a representative of the said Alaska Commercial Company.

In pursuance of such request I returned to the islands as agent of said last-mentioned company in charge of the island of St. George, which with the islands of St. Paul, Otter, and Walrus, constitute the group known as the Pribilof Islands. I arrived at said island some time in May, 1874; took up my residence there and remained in my capacity of agent in and about that island during each sealing season thereafter until the year 1887. At the expiration of the sealing season of 1887, I returned to the United States, and in 1891 was engaged by the Russian Sealskin Company, of St. Petersburg, as chief agent of that company, to proceed to the islands of Komandorski, consisting of

Copper and Bering Islands, commonly called the Commander Islands, which said company had a lease of the said Commander Islands as well as of the island of Tuleai or Robben, in the Okhotsk Sea, to kill seals and other fur-bearing animals on those islands on the payment of a royalty to the Russian Government. During the years above-mentioned I have superintended the killing of, on the average, 18,000 seals a year; and in the last year of my employment by the Russian Sealskin Company I killed or superintended the killing of 30,000 seals. The skinning, curing of skins, packing of skins, and shipping of the skins from the islands of all the seals the killing of which I superintended has been under my immediate supervision, and a considerable part of the work thereof has been done by me personally.

That during my employment on said Pribilof Islands I carefully studied the habits of the fur-seal and the statements hereafter made as to the habits of said animals are based on my own observation and also from the fact that these statements have been corroborated by natives and residents on said islands, whom I know to be familiar with every phase of seal life.

John Morris, being duly sworn, deposes and says: My age is 34 years, my occupation seaman, and my residence is Victoria, British Columbia. I have had six years' experience in sealing, both in the North Pacific and the Bering Sea. In February, 1882, I went sealing from Victoria, British Columbia, in the schooner *Oncard*. * * * I shipped as mate. * * * About the last of April, 1883, I sailed from Victoria on a sealing voyage in the *Oncard*. * * * About the 1st of January [1884] I sailed as master of the *Alfred Adams* on a sealing voyage. * * * In February, 1885, I sailed from Victoria, British Columbia, on the schooner *Seventy-six*. * * * In the month of February, 1887, I sailed from Victoria, British Columbia, in the schooner *Black Diamond*.

Matthew Morris, being duly sworn, deposes and says: I was born at Kasan and am 22 years old. Am a hunter by occupation and have hunted fur-seal in canoes off Prince of Wales Island.

John M. Morton, having been duly sworn, deposes and says: I am United States shipping commissioner at San Francisco. The Alaska Commercial Company obtained the lease of the seal islands in 1870. In the fall of that year I went to Alaska on the steamer *Constantine* as an agent of said company, arriving at St. Paul Island in October, where I remained until the close of the sealing season in the following year. During the summer of 1872, I visited all of the trading posts of the company, both on the mainland of Alaska and the various islands, thus spending the entire summer in Bering Sea. This trip was extended to Copper and Bering islands, belonging to the Russians, and of which members of the Alaska Commercial Company had control at that time, and to the Petropaulovski in Kamchatka. In the course of our voyage in 1872, we touched twice at the seal islands of Alaska, spending there all together, perhaps, a week or ten days. During our stay at St. Paul this year, I visited (in July) most of the rookeries and hauling grounds of the fur-seals.

The summer of 1873 I spent on St. George, and while there my busi-

ness called me frequently to the various portions of the island where the seals were accustomed to congregate. I did not go to Alaska in 1873, but in 1875 and again in 1876 I went north, spending both seasons on St. Paul Island. I resigned my position with the Alaska Commercial Company in the fall of 1876, but in the spring of 1877 I was appointed to the position of Treasury agent at the seal islands (in charge), and entered upon the discharge of my official duties in May of that year. During my residence on the island, which, so far as the sealing seasons were concerned, practically covered a period of eight years (from 1870 to 1878 inclusive), I obtained a full knowledge of the sealing business in its various branches, and became familiar with all of the ground occupied by the fur seals.

I was at all times greatly interested in observing the movements and habits of these animals and scarcely a day passed that I did not visit one or more of the rookeries. During the seasons of 1877 and 1878, while serving in the capacity of special Treasury agent, I devoted my best attention and study to this subject.

Moses, being duly sworn, deposes and says: I am a native Nitnat Indian, and reside at Pachena Bay on Vancouver Island, at Vancouver. British Columbia. I am *Moses, p. 309.* 50 years old, and am by occupation a hunter and fisherman, and have been so engaged for about thirty years. I have sealed out from Neah Bay in the sealing schooner *C. C. Perkins* (that was last year), and this year I am sealing on the schooner *James G. Scan*. Formerly I sealed out of Pachena Bay with my tribe in canoes. We used to seal in the straits of San Juan de Fuca, and all along the coast from the Columbia River to the upper end of Vancouver Island. I am familiar with all the bays and inlets on the west coast of Vancouver Island.

Morris Moss, being duly sworn, deposes and says: I have resided in British Columbia thirty years. Since 1880 have made my home in Victoria, British Columbia. *Morris Moss, p. 341.* My occupation is that of purchasing raw furs. Of late years raw fur-seal skins have been the principal furs handled by me. I have bought from 10,000 to 20,000 per year, and am vice-president of the Sealers' Association of Victoria, British Columbia.

Jacob H. Moulton, of Bowdoinham, Me., being duly sworn, deposes and says: I am 56 years of age, and my occupation is farming. From 1877 to 1885 I was first *J. H. Moulton, p. 71.* assistant Treasury agent on the seal islands. I arrived on St. George Island May 21, 1877, and left the islands in the fall of 1884. I spent four summers on St. George Island, and one winter, from 1877 to 1881, and four summers and four winters on St. Paul Island, from 1881 to 1884. Each season I made careful examination of the rookeries on the island where I then was located, in connection with my official duties, and I also made some study of the life and habits of the seal.

I, Peter C. Muller, a resident of Afognak, being duly sworn, depose and say: That I have been in Alaska eight years. My occupation is hunter. I am captain of a *P. C. Muller, p. 223.* hunting schooner.

Joseph Murray, being duly sworn, deposes and says: I reside at Fort Collins, Colo.; I am 49 years of age, and I am the first assistant special agent at the seal islands in Bering Sea. That in pursuance of Department instructions to me, dated April 20, 1889, I proceeded to the seal islands and landed on St. George Island May 31, 1889. That I had charge of that island until July 1, 1890, and I was present during the whole of two sealing seasons on the island of St. George.

Jos. Murray, p. 73.

Billy Nah-hoo, being duly sworn, deposes and says: I am about 35 years old. Was born at and reside at Killisnoo all my life. Am by occupation a herring fisherman and oil-maker, which oil I sell to other tribes of Indians. I have visited all the islands between here and Sitka, and in other parts of the Sound.

Billy Nah-hoo, p. 252.

Nashtou, being duly sworn, deposes and says: I was born at Kas-aan; am 60 years old; and have been a hunter all my life; have hunted fur-seal outside of Prince of Wales Island and in Dixons Entrance during the month of May every year for a long time.

Nashton, p. 297.

Smith Natch, being duly sworn, deposes and says: I was born at Kas-aan and have lived there all my life, and am now a very old man, about 80 years old. Have been a hunter all my life. Have hunted fur-seal every season for a great many years in Dixons Entrance.

Smith Natch, p. 298.

Dan Nathlan, being duly sworn, deposes and says: I was born on Queen Charlottes Island. Am 25 years old and now reside at Howkan. Am a hunter by occupation. Have hunted fur-seal since I was a boy. This is the first year I ever hunted on a schooner; am now on the schooner *Adventure*.

Dan Nathlan, p. 286.

Neechantake, being duly sworn, deposes and says: I was born in Yakutat and have lived there all my life. I belong to the Yakutat tribe of Indians, and am a very old man. Am by occupation a hunter.

Neechantake, p. 240.

Joseph Neishkaitk, being duly sworn, deposes and says: I was born in British Columbia; am 60 years old, and now reside at New Melakaitla; am a hunter by occupation; have hunted fur-seal; hunt in Dixons Entrance and Queen Charlotte Sound.

Joseph Neishkaitk, p. 287.

Niles Nelson, being duly sworn, deposes and says: I am by occupation a seal hunter, and part owner of the schooner *Annie*. My residence is in San Francisco. I was engaged in hunting seals during the years 1885 and 1886 in the North Pacific and Bering Sea.

Niles Nelson, p. 469.

S. R. Nettleton, being first duly sworn, deposes as follows: My place of residence since May, 1891, has been Seattle, Washington. For a period of nineteen years prior to that date I was a resident of the State of

S. R. Nettleton, p. 74.

Minnesota. My occupation was that of a real estate and investment broker. In the autumn of 1889 I went to the island of St. Paul, one of the Pribilof group, as a special agent of the Treasury Department. In August, 1890, I returned to the States and stayed until the spring of 1891, when I returned to said island of St. Paul. I remained there during the months of June and July of that year, and was then transferred to the island of St. George, where I remained until June, 1892.

In discharge of my duties as Treasury agent I made such observations as could be taken from the breeding rookeries and hauling grounds on the islands, and in the waters immediately adjacent thereto, and which enable me to make the following statement of facts; and from personal observation as well as information received from the native inhabitants of said islands, and white men resident thereon, I have formed the opinions herein expressed based upon information and belief.

Arthur Newman, a citizen of the United States of America, 51 years of age, being duly sworn, deposes and says: I have lived in the Aleutian Islands the greater part of the time since 1869. For eight years I was agent of the Alaska Commercial Company at Chernofsky, and for ten years I acted in the same capacity at Unnak; for three years I was an officer of a supply tender making trips between San Francisco and Unalaska. I have made four trips to the westward as far as Attu at different seasons of the year. *Arthur Newman, p. 210.*

Gustave Niebaum, having been duly sworn, deposes and says: I am 50 years old, a resident of San Francisco, and a merchant and shipowner. I was born in Helsingfors, Finland, and became an American citizen by the transfer of Alaska to the United States. I entered the service of the Russian American Commercial Company in 1858, and was in command of one of their vessels from 1866 until the cession of Alaska to the United States. I am, and have been for several years past, vice-president and a director of the Alaska Commercial Company, and a member of the firm of Hutchinson, Kohl & Co., the former lessees, respectively, of the Alaska and Siberian sealeries. *Gustave Niebaum, p. 76.*

In these various positions the care and management of seal rookeries and system and methods of killing seals and curing and transporting their skins to market has been my study. I visited the Pribilof Islands in 1867 and had charge of seal killing there in 1868 and 1869. * * *

I have no interest whatever in the sealeries or the seal-skin trade. * * *

Gustave Niebaum, p. 79.

I was formerly a resident of that Territory. * * *

I was from 1880 until 1881 vice-consul of Russia at the port of San Francisco. * * *

I was instrumental in Russia in obtaining the lease for the last-named company and had familiarized myself with the sealeries upon these islands in this connection. *Gustave Niebaum, p. 202.*

L. A. Noyes, being duly sworn, deposes and says: I am a native American, and my home is in Randolph, Vt. I am 52 years of age, and a physician by profession. *L. A. Noyes, p. 79.*

In 1880 I entered the service of the lessees of the Pribilof Islands as resident physician at the seal islands, and have resided here continuously ever since, excepting an occasional visit to my home, for a few months in winter, once or twice since 1880.

From June, 1880, to August, 1883, I was on St. George Island, and from 1883 to 1884 I was on St. Paul Island. I then returned to St. George, where I have resided ever since, excepting the vacation aforesaid.

I have given much time to the study of the Alaskan fur-seal and its peculiar habits, and I have watched with care and solicitude the increase and the decline in numbers of the animals on the hauling grounds and rookeries, and also the methods followed by the lessees in taking the skins—the driving and killing of the young males of from two to five years old, and the salting, curing, bundling, and shipping of the skins. I have likewise carefully observed and noted the coming of the seals in the spring, the hauling out at different times of the various ages and sexes, their disposition on the hauling grounds and rookeries, the formation of the “harem” or family, the birth of the pups, the migrations of the mother seals to feed, the breaking up of the harems, the scattering of the cows, and the general intermingling of the sexes in September, and finally the departure of the herd from the islands in November or later.

I have read most of all that has been written within the past quarter century on the fur-seal question; and I have listened to and taken part in many of the controversies indulged in by my associates and friends—men who have spent many years in the fur-seal industry and whose practical experience with all its details gives weight and value to their assertions. It was I who, at the request of the United States Treasury agent in charge of the islands, measured all the rookeries and hauling grounds on St. George Island in 1887,¹ and I have kept the record of the climatic changes on St. George since the United States Government discontinued the meteorological station at the Pribilof Islands.

In addition to my services as physician, I have occasionally taught the school on St. George, and I have kept the books and accounts for many years for the lessees on the same island. I am thoroughly conversant with the orders issued by the general and local agents of the lessees to the native chiefs in regard to everything appertaining to the business of taking the annual “catch” and the care of the seals. I have been intimately acquainted with the Treasury agents who have had charge of the islands since 1880, and I acted as assistant agent myself during the temporary absence of the assistant special agent. I am quite familiar with the general and special orders and instructions issued from the Treasury Department from time to time to the special agents for the government of the natives and care of the rookeries and seal herd. And I know those laws, rules, and regulations have been faithfully adhered to and fully enforced, published reports of transient visitors to the contrary notwithstanding.

Ntkla-ah, being duly sworn, deposes and says: I was born at Howkan.

Ntkla-ah, p. 288.

Am very old; about 60 years old. I have been a hunter all my life. Have hunted fur-seal every season since I was old enough, in a canoe.

¹The measurements were made very imperfectly, and I never claimed anything but an approximate measurement. It was my opinion that the numbers were exaggerated, and I so stated at the time.—L. A. N.

John O'Brien, having been duly sworn, deposes and says: I am 40 years of age; I reside in San Francisco; I am by occupation a longshoreman; I made a sealing voyage to the North Pacific and Bering Sea on the *Alexander*, which sailed from Victoria in the latter part of January, 1885. I was a boat-puller. *John O'Brien, p. 470.*

Nelson T. Oliver, being duly sworn, deposes and says: I am a native of New Bedford, Mass., and I am 58 years old. I am a resident of Port Townsend, where I have lived for the past twenty years. I followed seafaring life from the time I was 15 years old until 1888. I accompanied Capt. Jacobs on board the *Mollie Adams*, sealing schooner, in February, 1888. *Nelson T. Oliver, p. 372.*

John Olsen, having been duly sworn, deposes and says: I reside in Seattle, Washington. My occupation is ship carpenter. I helped to build the schooner *Labrador*, in 1890, at Vancouver, and went sealing in her in 1891. Captain Whiteleigh was commander. *John Olsen, p. 471.*

Peter Olson, being duly sworn, deposes and says: I was born at Howkan, and have lived at Kasan since I was a boy. Have been a hunter all my life. Have never hunted fur-seal; always hunted on the land; a great many of our people hunt fur-seal along the coast of Prince of Wales Islands and out in Dixons Entrance. *Peter Olson, p. 288.*

Oponyak, being first duly sworn, deposes and says that he is 65 years old. Is a native and resident of Aguis. Certifies the evidence given by Dick or Ehenchesut to be true. *Oponyak, p. 308.*

Osly, being duly sworn, deposes and says: I am a native Makah Indian, and reside on the Indian reservation at Neah Bay, in Clallam County, State of Washington, United States of America. I am about 28 years old, and am a fisherman and hunter by occupation. I have been engaged at seal-hunting along the coast for the last ten years. At first I hunted in large canoes, but soon commenced to go hunting in schooners. I have sealed all along the coast, from the mouth of the Columbia River to the passes leading into the Bering Sea. * * * About six years ago I went to Bering Sea as a hunter on the sealing schooner *Favorite*. * * * About four years ago I went to Bering Sea as a hunter in the sealing schooner *Challenger*. * * * In 1889 I again went to the sea in the schooner *James G. Swan*. *Osly, p. 390.*

Harrison Gray Otis, being duly sworn, says: I am a resident of this the city of Los Angeles, Cal.; am president of the Times-Mirror Company, and editor and manager of the Los Angeles Daily Times. I was special agent of the Treasury Department, in charge of the fur-seal islands of Alaska during the years 1879, 1880, and 1881, and had three assistant special agents stationed at the islands, acting under my directions. During these years I was present at the islands throughout each seal- *H. G. Otis, p. 85.*

ing season, having my headquarters on the island of St. Paul, and visiting the smaller island of St. George each season, and with my assistants personally superintended the catch of seals and the count and shipment of skins in every instance. During every sealing season, from the beginning to the end, I made it my special business to personally visit and inspect the breeding rookeries and the hauling grounds from time to time with a view to informing myself accurately as to their real condition, especially as to numbers, habits and habitat.

Will Parker, being duly sworn, deposes and says: My age is 40 years, residence and citizen of Victoria, British Columbia; occupation, hunter. I went sealing in 1890 in the *Walter Rieh*. * * * In 1889 I sailed as hunter in the British steamer *Ariel*. * * * In 1888 I sailed as hunter and interpreter in the British schooner *Alfred Adams*. * * * In 1887 I sailed from Victoria as hunter and interpreter in the British schooner *Ada*. * * * In 1884 and 1883 I sailed as cook on the British schooner *Thornton*. * * * In 1882 and 1881 I sailed as cook in the British schooner *Oncard*.

Wilson Parker, being duly sworn, deposes and says: I am a native Makah Indian and live on the reservation at Neah Bay, State of Washington, United States of America, and am by occupation a hunter and fisherman. I have been engaged in seal-hunting for about eighteen years; the first eight or ten years I used to go as a steerer-man in large canoes, three men in a canoe, and the Indians in the canoe used spears. We hunted 10 or 15 miles offshore and about the same distance north and south of Cape Flattery.

Charles Peterson, being duly sworn, deposes and says: I am 36 years old and am by occupation a seafaring man; my residence is Victoria, British Columbia. In April, 1886, I went seal-hunting from Victoria in the schooner *Mountain Chief*. * * * In the spring of 1887 I went on a sealing voyage from Victoria, as a boat-puller, in the schooner *Alfred Adams*. * * * In April, 1890, I went sealing in the *Minnie*. * * * In January, 1891, I left Victoria on a sealing voyage in the schooner *Minnie*.

Chestoqua Peterson, being duly sworn, deposes and says: I am 24 years of age, and am the son of Peter Brown, the chief of the Makah Indians. I reside at Neah Bay, Clallam County, State of Washington, United States of America. I am by occupation a clerk in the trader's store here, and I speak the English language well, and can interpret the Chinook and Indian languages. During the last eight years I have been engaged in buying and handling seal furs for my employer at Neah Bay.

John J. Phelan, being duly sworn, says: I am 35 years of age, a citizen of the United States and a resident of Albany, in the State of New York. At the age of 11 I entered the service of Mr. George C. Treadwell, a wholesale furrier of Albany. I remained with him until the time of his death, and have since been in the employ of his son, Mr. George H.

Treadwell, who has succeeded to the business carried on by his father. It has always been a part of my occupation, beginning with the age of 11, to handle fur seal skins, and during the last twenty years I have handled nearly every seal-skin that came into the factory. I have for many years been in the habit of putting them through every process connected with their preparation for manufacture, except that of dyeing, with which I am not familiar. I have removed the flesh and blubber; I have washed the skins; removed the hair or "picked" them, shaved them, and dressed them; and in this way I have constantly gone over and closely observed every part of their surfaces in all stages or processes through which they pass before they go to the dyer.

Personally appeared before me, Thos. N. Molloy, consul of the United States of America for Newfoundland, Richard Pike, master mariner of St. Johns aforesaid, who being duly sworn before me, upon his oath says: I am a master mariner. I have been engaged in the prosecution of the seal fishery on the coasts of Labrador and Newfoundland for forty-four years, twenty years of which I have been master of a steamer. *Richard Pike, p. 592.*

Mr. Henry Poland, being duly sworn, doth depose and say: That he is 40 years of age and a subject of Her Britannic Majesty; that he is the head of the firm of P. R. Poland & Son doing business at 110 Queen Victoria street, in the city of London, and has been engaged in that business twenty-one years; that the said firm of P. R. Poland & Son are doing business as fur and skin merchants, and have been engaged in that business for over one hundred years, having been founded by deponent's

great-grandfather in the year 1785, and having been continued without interruption since that date from father to son; that for many years last past deponent's said firm have been in the habit of buying large numbers of fur-seal skins, in fact ever since skins of that character have become an article of commerce, both on their own account and on commission for other persons resident in the United States and Canada and elsewhere; that by reason of having purchased so many skins deponent has a general and substantial knowledge of the history of the fur-seal skin business, and of the character and kinds of fur seal skins coming upon the London market.

Edwin P. Porter, being duly sworn, deposes and says: My age is 25 years; residence, Victoria, British Columbia; occupation, seaman and seal-hunter. I went out sealing as boat-steerer on the British schooner *Penelope*. * * * I think it was in the year 1888. * * * In 1889 I went as boat-steerer on the British schooner *Ariel*. * * * In 1891, I sailed as boat-steerer in the British schooner *Umbrina*. * * This year [1892] I went as boat-steerer in the British steamer *Thistle*. *Edwin P. Porter p. 346.*

Charles W. Price, having been duly sworn, deposes and says: I am 34 years of age and reside in San Francisco. My occupation is that of a fur-dresser and examiner of raw fur skins. I have been engaged in the dressing and examining of fur skins about twenty-years, and I am an expert in that business. I have examined and handled large numbers of fur-seal skins, both of the American and Russian side, and can easily distinguish one from the other from the appearance of the skins. *Chas. W. Price, p. 521.*

Elijah Prokopief, a native of Amchitka Island of the Aleutian Chain, 52 years of age, being duly sworn, deposes and says: Am a hunter of the sea-otter and blue fox, and have lived in this vicinity all my life. I hunt about Attu, Agattu, and the Semiehi Islands. Have never hunted nor killed a fur-seal.

Filaret Prokopief, a native of Attu Island, Alaska, 23 years of age, being duly sworn, deposes and says: I am the agent and storekeeper at this place for the Alaska Commercial Company, which position I have held for the last two years. My occupation is that of a hunter, principally for the sea-otter and fox; never for the fur-seal. I used to hunt, before I was made agent, about the Attu, Agattu, and the Semiehi Islands.

J. C. Redpath, being duly sworn, deposes and says: I am an American citizen, a native of Connecticut, and I am forty-eight (48) years of age. At present I am a resident of St. Paul Island, Alaska. I have resided on the seal Islands of St. George and St. Paul since my first coming to Alaska in 1875. My present occupation is that of local agent on St. Paul Island for the present lessees, the North American Commercial Company. I have a practical knowledge of and am thoroughly conversant with the habits and conditions of the fur-seal as it exists on the Pribilof Islands of St. George and St. Paul, and also of the methods adopted and practiced in the taking of the skins, and of the several efforts made by the former and present lessees, as experience taught them, to increase the herd and to build up the rookeries and to perpetuate seal life. I have had a personal experience of seventeen seasons on the killing grounds in different situations from that of seal-elubber to foreman, several years of which I have been resident local agent. My position as local agent has led me to make a careful study of the seal question, and it is my duty to report from time to time, to the general agent of the lessees the result of my observations.

Charles W. Reed, having been duly sworn, deposes and says: I am 53 years old, and am an American citizen, resident of San Francisco, and by occupation a shipmaster and pilot, and a member of the San Francisco Pilot Association. Between the years 1872 and 1880 I made four voyages, as master of a schooner and in charge of expeditions engaged in the sealing industry, to the Galapagos Islands. * * * In the first voyage I remained upon the islands about seven months, and at subsequent times from three to five months at each voyage, covering different seasons of the year. I have thus seen and carefully observed the seals resorting to these islands at all times of the year.

Personally appeared before me Paul Repin, who, being duly sworn, deposes and says: I am 57 years of age; was born in Unalaska, where I have lived all my life; and am a native of Alaska. For many years I was a sea-otter and seal hunter, and for eight years in my younger days I made trips with the priest to Unga and other villages in the vicinity. I have heard the statement made by Ruth Burdukofski, and from my knowledge of the facts know the same to be true.

Léon Révillon, being duly sworn, doth depose and say as follows: That he is 49 years of age and a citizen of the French Republic, and lives in the city of Paris, *Léon Révillon, p. 589.* and carries on business at No. 79 Rue de Rivoli, in the said city, and is a member of the firm of Révillon Frères, which firm is composed of Theodore Révillon, Léon Révillon, and Anatole Révillon.

That the said firm of Révillon Frères is engaged in the business of buying, dyeing, and selling seal skins; that they have been engaged in the said business for upward of twenty years, and the said deponent has been in the habit of purchasing fur-seal skins during the whole of that time; that he has personally handled many thousands of said fur-seal skins, and that he has a general and detailed knowledge of the history of the business of dealing in fur-seal skins in the city of Paris, and the character and difference which distinguish the several kinds of skins which come on the market.

That said firm of Révillon Frères has bought during the last twenty years upwards of 400,000 seal-skins.

George Rice, being duly sworn, doth depose and say: That he is 50 years of age, and a subject of Her Britannic Majesty. That he is engaged in the business of dressing and dyeing furs of various kinds in the city of London, at 32, 33, and 40 Great Prescott Street, in the said city, and at Stratford, which is a suburb of London. That he has been engaged in the fur business, and principally in the business of handling fur-seal skins, for twenty-seven years last past. That eleven years ago he established his present business of dressing and dyeing furs. That during the eleven years since the establishment of his present business he has handled and dyed large quantities of fur-seal skins, and has during those years and prior thereto personally handled hundreds of thousands of fur-seal skins, and that in the year 1891 he dyed upwards of 90,000 fur-seal skins. That by reason of his experience in his business he has a general and detailed knowledge of the different kinds of fur-seal skins and of the differences which distinguish them, as well as the history, character, and manner of conducting the fur-seal skin business in the city of London.

Kesth Riley, being duly sworn, deposes and says: I am 40 years old; born and reside at Killisnoo. Am now working for the white men in summer and catching herring for making oil in the winter. Sell the oil to the other tribes of Indians. I have visited the different islands in the sound. [Chatham.] *Kesth Riley, p. 252.*

W. Roberts, being duly sworn, deposes and says: I reside at Yakutat Bay, Alaska, and I am by occupation a mariner. I have been engaged in the business of catching seals in the North Pacific Ocean and Bering Sea for four years, three years as sailor, one year as captain, two years off the coast of British Columbia, two years off Southeast Alaska and Bering Sea. *W. Roberts, p. 241.*

William Rohde, being duly sworn, deposes and says: I am a resident of St. Paul, Kodiak, Alaska, and am captain of a hunting and trading schooner. I have resided in Alaska six years, and in all that time followed *Wm. Rohde, p. 222.*

the calling of a hunter. * * * I never hunted fur-seals, but I have a knowledge of their habits and movements.

Rondtus, being duly sworn, deposes and says: I was born at Yakutat, and belong to the Yakutat tribe of Indians. Am about 28 years old and a hunter by occupation. I have hunted fur-seal, otter, and bear.

Rondtus, p. 242

Abel Ryan, being duly sworn, deposes and says: I am 22 years old. Was born in British Columbia and reside on Dundas Island. I have hunted fur-seal every season since I was a boy, between March and June. Always hunted in Dixons Entrance and off Prince of Wales Island.

Abel Ryan, p. 299.

Thomas F. Ryan, being duly sworn, deposes and says: I am a resident of Indianapolis, Indiana, and am 51 years old. During the years 1885 and 1886 I was assistant Treasury agent, residing on St. George Island, one of the Pribilof Islands. I arrived there about the 1st of May, 1885, and remained there until August 9, 1886. In order to perform my duty as agent I made a careful study of seal life on the island, and examined as far as I was able into the habits of the fur-seal.

Thomas F. Ryan, p. 174.

S. W. Saalburg, being duly sworn, deposes and says: The following statistics relative to the number of salted Northwest Coast seal-skins purchased by the firm of H. Liebes & Co., of San Francisco, Cal., and prices paid therefor, have been gathered by me from the books and records of said firm, covering a period from the year 1883 to 1892, inclusive. I held the position of chief bookkeeper and cashier for H. Liebes & Co. during said period of time, and know of my own personal knowledge that the number of skins set forth below were duly purchased by said firm at the average prices stated, and that payment therefor is regularly entered on the firm's cashbooks of the respective years.

S. W. Saalburg, p. 521.

Saisun, being first duly sworn, deposes and says that he is 60 years of age; a native and resident of Aguis; quit seal-hunting four years ago. Last hunted in small schooner *Pictou* or *Victor*, William Gilbert, alias Billy the Butch, being in command. He spent two months outside in schooner with eight canoes and sixteen men. Obtained 200 skins. All were caught off Cape Flattery and Barclay Sound, about 40 miles off the shore. Certifies evidence given by Dick or Ehenchesut to be true.

Saisun, p. 307.

Adolphus Sayers, having been duly sworn, deposes and says: I am a seaman. I reside in San Francisco. I was engaged in sealing in the Bering Sea and North Pacific, in the *City of San Diego* and the *Adeline*, in the years 1887 and 1888. I was master of the *Adeline*. * * * I was a boat-puller when I was on the *City of San Diego*.

Adolphus Sayers, p. 473.

C. M. Scammon, having been duly sworn, deposes and says: I am 67 years old and a resident of Oakland, Cal. I am and have been an officer in the United States Revenue Marine Corps since 1863. In 1865 and 1866 I was in command of the Western Union Telegraph Company's

C. M. Scammon, p. 473.

fleet of vessels when it was expected to establish a telegraph line to Europe via Bering Straits. In this capacity and later as commander of vessels under the United States revenue-cutter flag, I repeatedly passed through Bering Sea, touching at the seal islands. I am the author of the work entitled "The Marine Mammals of the Northwestern Coast of North America," published by J. H. Carmany & Co., San Francisco, 1874. In preparing Chapter IV of part 2 of that work, relative to fur-seals, I consulted every accessible authority upon that subject and added the result of my own observation and experience. Since then eighteen years have elapsed and many new facts have been brought to light concerning them, confirming for the most part what was then written, yet modifying to some extent the conclusions arrived at.

Schkatatin, being duly sworn, deposes and says: I was born in Yakutat and I have lived there all my life. I belong to the Yakutat tribe of Indians and am now *Schkatatin*, p. 243. a very old man; am by occupation a hunter. Yes; I have killed fur-seal. I used the bow and arrow for killing them. * * * I have traveled from Icy Bay to Nulnuh and back along the coast as far east as Lityu Bay.

Benjamin F. Scribner, being duly sworn, deposes and says: I am 66 years of age, and a pharmacist by profession. My residence is New Albany, Ind. In July, 1878, I *B. F. Scribner*, p. 89. was appointed assistant Treasury agent for the seal islands, and arrived on said islands in May, 1879. I landed at St. George Island and remained there continuously until August, 1880, except a part of the season of 1880 I spent on St. Paul Island. During this time I made a careful study of seal life in connection with my official duties, and also for my own satisfaction.

L. G. Shepard, being duly sworn, deposes and says: I am 45 years of age; a resident of Washington, D. C., and am captain in the U. S. Revenue Marine Service, chief *L. G. Shepard*, p. 187. of division Revenue Marine, Treasury Department. In command of the revenue steamer *Rush*, I made three cruises to Bering Sea in the years 1887, 1888, and 1889, for the purpose of enforcing existing law for protection of seal life in Alaska and the waters thereof, and also to protect other Government interests in Alaska.

William Short, being duly sworn, deposes and says: I am 26 years old and reside at Victoria, British Columbia, and am by occupation a painter. On January 14, *William Short*, p. 348. 1890, I sailed as a boat-puller, from Victoria, B. C., on the British sealing schooner *Maggie Mac*. * * * In July, 1891, I sailed out of the port of Victoria, B. C., as a hunter on the British sealing schooner *Otto*.

Showoosch, being duly sworn, deposes and says: I was born at Sitka; am a very old man, and I belong to the Yakutat tribe of Indians; have been a hunter *Showoosch*, p. 243. all my life, hunting sea-otter and seal in the summer and bear and fox in the winter. When I was a young man I killed fur-seal off Yakutat Bay, using a spear altogether. I haven't killed any seal lately.

George Shnekeyah, being duly sworn, deposes and says: I am a cousin of the head chief of the Chilcat Indians.
George Shuckeyah, p. 248. Am 30 years old. I go up and down the coast from Chilcat to Wrangel and meet many people belonging to the different tribes of Indians.

Shucklean, being duly sworn, deposes and says: Was born and have lived at Killisnoo all my life. Am 60 years of age.
Shucklean, p. 253. I was a doctor most of my life, but have given it up, and I now catch herring and make oil. The oil I sell to the people of other tribes, who come a long ways to purchase it from me. Have been down to Sitka, and on all islands and inlets around Chatham Sound.

Jack Shucky, being duly sworn, deposes and says: Was born in Shakan; am a hunter by occupation; have hunted seal in summer time and bear in winter since I was a boy; have always hunted seal off Prince of Wales Islands in my canoe.
Jack Shucky, p. 289.

Alexander Shyha, being duly sworn, deposes and saith: I am chief of the native settlement at Fort Alexander, Cooks Inlet, Alaska Territory, and am by occupation a hunter of all fur-bearing animals found in this vicinity excepting the fur-seal. I am a native of Alaska, and have resided all my life in the Territory. My occupation as a hunter has taken me along the coast and to the sea a distance of from 20 to 30 miles from the coast.
Alexander Shyha, p. 226.

Peter Simes, having been duly sworn, deposes and says: I reside in San Francisco. My occupation is that of steward.
Peter Simes, p. 476. I made one sealing voyage in 1890 on the British schooner *Umbrina*, of which Capt. Campbell was master.

Aaron Simson, being duly sworn, deposes and says: I reside at Wrangel and am 22 years. I have hunted seal some off Queen Charlottes Island.
Aaron Simson, p. 290.

Martin Singay, being duly sworn, deposes and says: Am about 58 years old. Born at and reside in Sitka and am by occupation a hunter. Have hunted seal every summer and deer every winter since I was a small boy. Have never been in Bering Sea. Have hunted seal off Sitka Sound.
Martin Singay, p. 268.

Jack Sitka, being duly sworn, deposes and says: Am 56 years old. Was born and reside in Sitka. Am a hunter by occupation. Have hunted seal every season since I was a boy.
Jack Sitka, p. 268.

Skeenong, being duly sworn, deposes and says: I was born at Copper River. I am an old man and belong to the Yakutat tribe of Indians, but have lived here but one year. I hunt the sea-otter and land game in seasons.
Skeenong, p. 244.

Frederick Skibby, being duly sworn, deposes and saith: I reside at Coal Point, Kachemak Bay, Cooks Inlet, Alaska, and have lived in the Territory for the past seven months, exclusively at this place. I am a coal-miner by occupation, and have no knowledge of fur-seal life. *Frederick Skibby, p. 228.*

Thomas Skowl, being duly sworn, deposes and says: I am chief of the Kas-aan Indians. Was born at Kasaan, and have lived there all my life. Am 48 years old. Am a hunter by occupation, and have hunted fur-seal the past fifteen years. Always hunted seal in Dixons Entrance and off Prince of Wales Island, and hunted them each year from March to June. *Thomas Skowl, p. 300.*

George Skultka, being duly sworn, deposes and says: I was born at Howkan, and have lived there all my life. I am chief of the Hyda Indians; am about 50 years old. Am a hunter by occupation. Have hunted fur-seal since I was about 20 years old. *George Skultka, p. 290.*

Yuan Slanoeh, being duly sworn, deposes and says: Am 35 years old; born and have lived in Killisnoo all my life. My business is that of catching herring and making oil, and chopping wood. I sell the oil to people of other tribes. When following my occupation I visit all the islands and inlets of Chatham Sound, and have never seen or taken a fur-seal in my life. *Yuan Slanoeh, p. 253.*

James Sloan, having been duly sworn, deposes and says: I reside in San Francisco. I am by occupation a seaman. I made three voyages to Bering Sea. My first voyage was on the *Flying Mist*, of which Capt. Saddler was master; my next was on the *Penelope*, of which Capt. Littlejohn was master, and my next was in the schooner *Arctic*, of which Capt. Brassey was master. We sailed from here on the *Flying Mist* on the 17th day of April, 1871. * * * On my next trip, in 1884, I sailed from Yokohama, Japan, on the *Penelope*, leaving there about March, * * * going to the Okhotsk Sea, sealing there about a month. * * * My third voyage was in 1889. I sailed from Yokohama on the *Arctic* about the latter part of January. * * * We went to the Okhotsk Sea and sealed there about two months. *Jas. Sloan, p. 477.*

Leon Sloss, having been duly sworn, deposes and says: I am 33 years of age, a native of California, and a resident of San Francisco, Cal. I was for several years a director of the Alaska Commercial Company, and am a member of the partnership of Louis Sloss & Co., and have been engaged for the past fifteen years in dealing in wools, hides, and fur skins, but have now no interest in seals or sealeries. *Leon Sloss, p. 90.*

I was superintendent *pro tempore* of the sealeries of Alaska in the interim from 1882 to 1885, inclusive, during the illness of H. H. McIntyre, the regular superintendent, and spent the sealing season of those three years on the Pribilof Islands in the personal management of the business. I am, therefore, by reason of this service and of my active employment at all other times in the office of the Alaska Commercial Company from 1877 to this date, acquainted with every aspect of the

business. All advices from our London agents, and information in regard to the seal-skin market from all sources, passed through my hands, and instructions to the agents of the company in regard to the class of skins desired emanated from time to time from me.

Fred Smith, being duly sworn, deposes and says: Was born at and reside at Victoria. Have been a seal-hunter for the last three years on the *Winifred*, *Sea Lion*, and *Maseot*, British schooners, and the American schooner *Challenge*. Have hunted seal in Bering Sea and the Pacific Ocean.

Fred. Smith p. 349.

John W. Smith, being duly sworn, deposes and says: I reside at the settlement known as Soldovoi, on Cooks Inlet, Alaska. I have lived in the Territory for the past twenty-four years, chiefly at trading posts along the coast of Alaska, between Prince William Sound and the Yukon River, in the employ of fur-trading companies. I am at present the agent of the North American Commercial Company at this place, and it is my duty to trade in, and otherwise handle, furs and skins of all descriptions.

Jno. W. Smith, p. 232.

William H. Smith, being duly sworn, deposes and says: I am by occupation a seaman and seal-hunter. Have been engaged in catching seals in the North Pacific Ocean for fourteen years and one season in Bering Sea. Have been mate and captain while sealing.

Wm. H. Smith, p. 478.

E. W. Soron, having been duly sworn, deposes and says: I am by occupation a seaman. I reside in San Francisco. I was in the North Pacific in 1888, on board the *City of San Diego*, as mate.

E. W. Soron, p. 479.

Stahkan, being duly sworn, deposes and says: I was born at Yakutat and am now a very old man. Have hunted seal and sea-otter all my life during the summer season, using the spear and arrow.

Stahkan, p. 244.

Emil J. Stake, being duly sworn, says: I am 28 years of age, a citizen of the United States, and a resident of the city of New York. In 1851 John Rnszits established in the city of New York a large wholesale fur business, at the head of which he remained until his death in 1890. * * * I entered the employ of John Rnszits at the age of 14. Since the age of 21 I have been familiar with every transaction connected with the business, and upon his death I succeeded to its sole management.

Emil J. Stake, p. 530.

William Charles Blatspiel Stamp, being duly sworn, doth depose and say: That he is 51 years of age, and a subject of Her Britannic Majesty, and is engaged in business at 38 Knightrider street, London, E. C., as a fur and skin merchant. That he has been engaged in that business for upwards of thirty years, and has been in the habit of purchasing fur-seal skins during the whole of the time that he has been in business. That he has personally handled many thousands of such fur-seal skins,

W. C. B. Stamp, p. 574.

and he has inspected the samples at practically every sale of fur-skins made in London during the whole of the time he has been in business, and in consequence of these facts and of his knowledge of the fur-seal skin business he has a general and detailed knowledge of the history of the business of dealing in fur-seal skins in the city of London and of the character and differences which distinguish the several kinds of skins coming on the market.

Cyrus Stephens, having been duly sworn, deposes and says: I am working at calking vessels at the present time; I was employed on sealing vessels in the North Pacific in 1888 as cabin boy and boat puller. I made two voyages to the North Pacific: first in the *City of San Diego* and the next in the *C. G. White*, in 1890. We left here with the *City of San Diego* in February of 1888, and arrived in the Bering Sea in June, 1888. *Cyrus Stephens, p. 479.*

B. H. Sternfels, having been duly sworn, deposes and says: I am 50 years of age, and reside in San Francisco. My occupation is that of a fur merchant. I have been engaged in handling and purchasing fur for twenty-six years, and I am thoroughly familiar with the fur-seal skins in their raw and dressed condition. *B. H. Sternfels, p. 522.*

Joshua Stickland, being duly sworn, deposes and says: I reside in Victoria, British Columbia; I am by occupation a seal hunter; have been in the business two years on the British schooner *Umbrina*. *Joshua Stickland, p. 349.*

Q. What is your name, age, residence, and occupation?—A. My name is Gustave Sundvall; I am 37 years of age; occupation, sea captain, and am residing at present at Oakland, Cal. *Gustave Sundvall, p. 480.*

Q. Are you a citizen of the United States?—A. I am.

Q. What State are you a resident of?—A. I am a resident of the State of California.

Q. Have you been engaged in catching seals in the Pacific and Bering Sea, and for how long?—A. I have been engaged in catching seals in the Pacific and Bering Sea for a number of years.

John A. Swain, being duly sworn, deposes and says: I reside at Victoria, British Columbia. I am a seaman by occupation, and am 27 years old. I went sealing in May, 1891, as boat puller in the steamer *Thistle*. *John A. Swain, p. 350.*

* * * * In February, 1892, I again shipped in the schooner *Genera*.

Z. L. Tanner, being duly sworn, deposes and says: I am a lieutenant-commander in the U. S. Navy. I have made five cruises in Alaskan waters, in command of the Fish Commission steamer *Albatross*, now temporarily in the service of the United States Revenue Marine, as follows, viz: I left San Francisco July 4, 1888, for the north, via Esquimalt and Departure Bay, where we called for coal. Arriving off the west end of Unalaska Island on the 21st, commenced exploring the coast in the interest of the fisheries, soundings being run from shore to the 100-fathom line. Arrived at Iliuliuk, Unalaska Island, on the 23d, and *Z. L. Tanner, p. 373.*

sailed on the 28th. Explorations extended to the Fox Islands Passes, the Sannaks, and to the Shumagin Islands. Called at Sand Point (or Humboldt Harbor), Eagle Harbor, and Yukon Harbor, in the latter group. Resuming the work of exploration, it was carried to Mitrofan Bay, where we called, and thence to Kadiak Island, stopping at Old Harbor and Port Hobron. The extensive banks off the south coast of Kadiak were examined, and a call made at St. Paul, the most important settlement in that region. Leaving the latter place, the work of exploration included the Portlock Bank, and thence to Middleton Island, where a landing was made. Soundings were then carried in the direction of the reported position of the Pamplona Rocks, for which an unsuccessful search was made. Thence we proceeded to Departure Bay, Puget Sound, the coasts of Washington and Oregon, and to San Francisco, arriving October 21.

I left San Francisco on the 21st of May, 1889, and was engaged in deep-sea exploration on the coasts of Oregon and Washington until July 7, then made a trip to southeastern Alaska through the inland passages, visiting Fort Tongass, New Metlahatlah (Port Chester), Karta Bay, Port Wrangell, Sitka, Pavlof Harbor, Glacier Bay, Hoon-yah, Chilkat, Chilkoot and Juneau. Returned to Tacoma on July 28, calling at Victoria, Port Townsend and Seattle en route. I sailed for the north on the 5th of May, 1890, via Departure Bay, British Columbia, and commenced the examination of the region from the Sannaks to Unimak Pass on the 21st, arriving in Unalaska on the 23d. The work of the season included the exploration of the northern coasts of Unalaska, Unimak, the Alaska Peninsula, and the northern shores of Bristol Bay to the Kuskowin River. The Slime Bank and Baird Bank were developed in Bristol Bay. A survey was made of the lower Nushagak River, the entrance to Port Moller, and Herendeen Bay. Deep-sea exploration was extended to $58^{\circ} 43'$ north and longitude $175^{\circ} 30'$ west, passing near the 100-fathom line, 70 miles to the westward of the Pribilofs. Left Bering Sea August 26, arriving in San Francisco September 26, via Departure Bay, Port Townsend, and the California coast, where we were engaged in deep-sea exploration from the 21st to the 25th. I sailed again for Bering sea July 16, 1891, having on board the United States commissioners to the seal islands. We arrived at Unalaska July 25, and were at the Pribilof Islands from the 28th to August 10. Left the sea on the 13th of August, and reached San Francisco September 15, via Departure Bay, Esquimalt and Puget Sound. On the 19th day of March, 1892, I sailed from San Francisco for Alaskan waters, via Port Townsend and Seattle.

The cruise had special reference to the migration of the fur-seal herd and their relation to the localities visited by us; in other words, we were to ascertain whether there were fur-seal rookeries in Cooks Inlet or Prince William Sound, whether they hauled out or attempted to haul out there, or, in fact, anywhere in Alaska outside of the Pribilof Islands. The following places were visited in the order named: Port Graham, with its tributary settlement of Fort Alexander, having a population of 120, all Aleuts except one white man, the agent of the Alaska Commercial Company. The men are hunters. Chesloknu Bay, with its village of Soldovoi, having a mixed population of Aleuts and Kenai Indians, numbering 103, and four white men. The natives are hunters. Coal Point, population 11, all white, occupied in holding possession of coal claims. Some of them, having had many years experience in the Territory, were able to give much valuable testimony. St. Paul, Kadiak, population 380, 65 of whom are white, the remainder

ereoles and Aleuts. The native men and nearly all of the whites are hunters. Wood Island, near St. Paul, has a population of 193, including three whites, the natives being mostly hunters. Owing to a severe winter and late spring, the men were still at home, and we were able to procure affidavits from 35 whites and 55 native hunters, who had practical knowledge of the subject in the regions in which they were in the habit of hunting. The regular work of the *Albatross* is deep-sea exploration, the discovery and development of fishing grounds, and, not infrequently, purely scientific investigation in normal ocean depths far outside of the range of economic species.

I have been engaged in this work nearly fourteen years, during which time it has been a part of my duty to acquire information concerning the seal and its life. This has been done not only from personal experience and observations, but by questioning practical men, such as intelligent mariners, fishermen, and hunters. Pelagic sealing has been a frequent subject of conversation and argument with me since my first northern cruise in 1888, and I have reached the following conclusions:

W. B. Taylor, of Omaha, Nebr., being duly sworn, deposes and says: I am 41 years of age, secretary and treasurer of the Globe Loan and Trust Company, of Omaha, Nebraska, and am not and never have been in any way connected with any company engaged in the seal-skin industry. In the year 1881 I was assistant Treasury agent for the seal islands. I arrived on the islands in the latter part of May of that year, and after a week's stay on St. Paul Island was detailed to St. George, remaining there until the latter part of August. Since then I have not been on the islands. While on St. George I was on the killing grounds every day during the season, and visited the rookeries almost daily, both in connection with my official duties and for the purpose of studying seal life. *W. B. Taylor, p. 175.*

Tehet-Chak, being duly sworn, deposes and says: Was born at Kilisnoo and have lived here all my life. Am now a very old man. My occupation is that of a herring-fisher and wood-chopper. Have visited all the islands and inlets in Chatham Sound and other parts of southeastern Alaska. *Tehet-Chak, p. 254.*

Emil Teichmann, being duly sworn, doth depose as follows:

First. That he is 46 years of age, a native of the Kingdom of Wurtemberg, and is now a naturalized subject of Her Britannic Majesty. *Emil Teichmann, p. 576.*

That since the age of manhood he has been engaged in the fur business; that from 1866 to 1868, inclusive, he resided in America in that business, and since 1868 he has resided in England and done business in the city of London, and is now and has continually been during all these years engaged in one way or another in the fur business. That he is now a member of the firm of C. M. Lampson & Co., and has been a member of such firm for the period of twelve years last past. That prior to the time he became a member of such firm and from the years 1873 to 1880 he was a member of the firm of Martin & Teichmann, who were then, and its successors C. W. Martin & Sons still are, the largest dressers and dyers of seal-skins in the world.

That the firm of C. M. Lampson & Co., of which deponent has been as aforesaid for the last twelve years a member, are what is known as commission merchants engaged in the business of selling furs of various kinds and also in buying furs upon commission.

That the said firm of C. M. Lampson & Co. has, during the time that deponent has been a member thereof, handled a larger number of skins of the fur-seal than all the other firms in the world together, and deponent knows from inspection of the books of his said firm that for many years prior to the date when he became a member of the same they also handled during many years previously thereto a larger number of fur-seal skins than all the other firms in the world together.

That during the time deponent has been a member of the said firm he has personally handled many hundreds of thousands of fur-seal skins, and he has a detailed and expert knowledge of the various kinds of seal-skins, and the several differences between them which enable the several sorts of seal-skins to be distinguished from each other.

Deponent was connected with the firm of Messrs. J. M. Oppenheim & Co., at New York and London, from the years
Emil Teichmann, p. 579. 1866 to 1872 inclusive, and his late partner, Mr. Martin, and himself ultimately succeeded to the business of Messrs. J. M. Oppenheim, so far as it related to the dressing and dyeing of seal-skins.

George H. Temple, having been duly sworn, deposes and says: I am 32 years old; a native of Vermont, where I now
Geo. H. Temple, p. 153. reside. I was bred to the occupation of farming, and am at present a hardware merchant in my native town of Randolph.

From 1880 to 1882 I was employed by the Alaska Commercial Company at St. Paul Island, Alaska, as assistant agent, and in that position became familiar with the work of handling, driving, and herding the killable seals, and with the habits and peculiarities of the breeding seals on the rookeries, both of which have, in the main, been accurately and intelligently described by H. W. Elliott in his "Report on the Seal Islands of Alaska," published by the Department of the Interior, Census Office, 1884.

Michael Thlkahdaynahkee, being duly sworn, deposes and says:
M. Thlkahdaynahkee, p. 269. Am about 60 years old; born at and live in Sitka. Have been a seal hunter all my life.

W. Thomas, being duly sworn, deposes and says: I am a seaman by occupation and at present captain of the steamer
W. Thomas, p. 485. *Elsie*. Previous to taking command of the *Elsie* I was in command of the steamer *Karluk* doing business in Alaska most of that time.

William G. Thomas, being duly sworn, deposes and says: Have lived in southeastern Alaska the last eleven years,
Wm. G. Thomas, p. 291. seven of which I resided at Fort Wrangel. Have been engaged in the fishing business a number of years.

Adolph W. Thompson, having been duly sworn, deposes and says: I reside in San Francisco: My occupation is that of
Adolph W. Thompson, p. 486. a master mariner. I went sealing in 1890, when I was mate of the *Allie Alger*. * * * In 1891 I went out in the schooner *C. H. White*.

Thunk, being duly sworn, deposes and says: I am so old that I have lost my eyesight. Was born in Yakutat and have lived there all my life. Never killed any fur-seal in my life. Spent all my life hunting sea-otter. *Thunk, p. 245.*

Peter Titchenoff, a resident of St. Paul, Kadiak, Alaska, being duly sworn, deposed and said: I am a native of Alaska. Am 57 years old. I am storekeeper for the Alaska Commercial Company; I am acquainted with the coast from Sitka to Kadiak. *Peter Titchenoff, p. 222.*

Charlie Tlaksatan, being duly sworn, deposes and says: I am 43 years old; was born at Sitka, Alaska. Have hunted seal by myself since I was a boy, and when very small went sealing with my father. *Charlie Tlaksatan, p. 270.*

John C. Tolman, being duly sworn, deposes and says: I am United States deputy collector; resided nearly two years at Kadiak in capacity of deputy collector. *John C. Tolman, p. 222.*

Toodays Charlie, being duly sworn, deposes and says: I am 30 years old; I belong to the band of Killisnoo Indians and was born at and have lived in Killisnoo all my life; am by occupation a herring fisherman; I visit all the islands and inlets around Chatham Sound in following my occupation of making oil from the herring which I catch. *Toodays Charlie, p. 249.*

George H. Treadwell, being duly sworn, says: I am 55 years of age, a citizen of the United States, and a resident of Albany County in the State of New York. I am the son of George C. Treadwell, of Albany, who, in the year 1832 there started a wholesale fur business of a general character. I became associated with him in it in the year 1853, and upon his death, in the year 1885, succeeded to the business. It has been carried on under the names of George C. Treadwell & Co and Treadwell & Co. In the early part of this year it was turned into The George C. Treadwell Company, a corporation formed under the laws of the State of New Jersey, of which corporation I am the president. *Geo. H. Treadwell, p. 523.*

Henry Treadwell, being duly sworn, says that he is a citizen of the United States; is 70 years of age, and resides in the city of Brooklyn, in the State of New York; that he is a member of the firm of Treadwell and Company, which has been engaged in the business of buying, dressing, and dealing in furs since about the year 1832; that for the twenty years last past deponent's said firm have bought on their own account, dressed, and dyed annually from 5,000 to 8,000 seal skins. * * *

I have been in the wholesale fur business for over forty years, and took an active part in it until two years ago, when I retired from business. *Henry Treadwell, p. 529.*

Peter Trearsheit, being duly sworn, deposes and says: I am 27 years old and reside at Sitka. Am by occupation a seaman and seal-hunter. Have been engaged in catching seal three seasons. Last season I commanded the sealing schooner *Sitka*, of Sitka. *Peter Trearsheit, p. 271.*

Francis Tuttle, having been duly sworn, deposes and says: I am a first lieutenant in the United States Revenue-Cutter Service, and have been an officer in that service for the last thirteen years. Am at present in command of the revenue cutter *Hartley* at San Francisco. I made cruises to the Bering Sea in the United States revenue steamer *Rush* during the years 1888-'89 and 1890. During the sealing season of 1888 the *Rush* cruised in Bering Sea and made frequent stoppages at the seal islands. I had an excellent opportunity to observe some of the seal rookeries during my first visit to the islands, and spent much time in studying the habits of the seals, both on the rookeries and in the adjacent waters. * * * During 1890 the *Rush* was not engaged in preventing sealing outside the shore limit, and we spent much time in full view of the seal rookeries and cruising about the seal islands, and I also made frequent visits to the breeding grounds.

Twongkwak, being duly sworn, deposes and says: Was born at Yakutat; am about 30 years old, and belong to the Yakutat tribe of Indians. Hunting is my occupation; have hunted sea-otter and seal.

John Tysum, being duly sworn, deposes and says: I am about 29 years old. I am a native Indian of the Makah tribe; I reside on the reservation at the Neah Bay Agency. I am by occupation a hunter and fisherman. I have been engaged in hunting seals ever since I was old enough. In 1889 I entered the Bering sea in the schooner *James G. Swan*. I was never there before, nor have I been there since. * * * I have sailed up and down the coast in canoes between Destruction Island and the north end of Vancouver Island.

Samuel Ullmann, being duly sworn, says: I am 34 years of age, a citizen of the United States, and a resident of the city of New York. The house of Joseph Ullmann, in which I am a partner, began business at St. Paul, in the State of Minnesota, in 1854. It has always been engaged in the wholesale fur business, and since the time when fur-seal skins first became an important article of commerce in this country it has dealt in large numbers of them. I have personally handled seal-skins for the last twelve or thirteen years, and am familiar with the whole seal-skin trade of this country. The house of Joseph Ullmann now does business at St. Paul, Leipzig, London, and New York.

James Unatajim, being duly sworn, deposes and says: I reside in Sitka; am by occupation a seal-hunter; have been engaged in that business since I was a small boy. I am now about 38 years old. Have never been in Bering Sea; have always hunted seal along the coast of Alaska.

George Usher, being duly sworn, deposes and says: I was born in British Columbia. I am 57 years old, and reside at New Metlakatla. I have been a hunter all my life. I was one of the first to hunt fur-seals among the Tsimshians, and have hunted seal ever since. I always hunt in canoes. My hunting place has always been off Dundas Island. Have hunted in Queen Charlottes Sound, Dixons Entrance, and off Prince of Wales Island.

Francis Verbeke, being first duly sworn, deposes and says that he is a Roman Catholic priest, in charge of Roman Catholic mission in village of Chapies, on Todgers Cove. He has resided in Chapies four winters. *Francis Verbeke, p. 311.*

Charles T. Wagner, being duly sworn, deposes and says: I am a citizen of the United States, over 21 years of age, a resident of Sanak, in the Aleutian Group, and am employed by the Alaska Commercial Company as their agent in the purchase of furs and in supplying the natives with food and clothing. *Chas. T. Wagner, p. 211.*

I was first employed by the Government as deputy collector of customs at Unalaska for nearly three years, from 1871 to 1873, since which time I have been in the employ of the company.

During the twenty years which I have been stationed in various trading posts in the Bering Sea, I became conversant with the general question pertaining to the fur-sealing industry in those waters, having bought seal-skins both from natives and from hunting vessels.

* * * * *

I never have been employed by the present lessees of the seal islands.

Rudolph Walton, being duly sworn, deposes and says: I am 25 years of age; born at Sitka; am at present on the police force; have hunted seal three seasons, 1889, 1890, and 1891, around Biorka Island. *Rudolph Walton, p. 272.*

Charlie Wank, being duly sworn, deposes and says: I am 30 years old; was born at and reside at Sitka; am by occupation a seal-hunter; have been catching seal most all my life. *Charlie Wank, p. 273.*

George Wardman, of Pittsburg, Pennsylvania, being duly sworn, deposes and says: I am 50 years of age, and editor of the Pittsburg Press. In 1879, as a journalist, I made a trip to Alaska on the United States revenue steamer *Rush*, during her summer cruise. On that trip I stopped at many points along the northwest coast, the Alaska coast, and the Aleutian chain, and also visited the Pribilof Islands and St. Michael, going as far north as Bering Straits. On April 4, 1881, I was appointed assistant special Treasury agent for the seal islands, and immediately after such appointment proceeded to San Francisco and sailed for the islands, arriving there in the latter part of May. I was then detailed by Colonel Otis, special Treasury agent for the seal islands, to the island of St. George, and until May 29, 1885, I remained in charge of that island. During that time I returned but twice to the United States. I made careful examination of the rookeries each year, and after the first year I compared my yearly observations, so that I might arrive at some conclusion as to whether it was possible and expedient to increase our portion of the quota of skins to be taken on St. George Island without injuriously affecting seal life there. *George Wardman, p. 177.*

M. L. Washburn, having been duly sworn, deposes and says: I reside at West Randolph, Vt., but spend most of my time on the south shores of Alaska. My occupation is that of a fur-dealer. I have been in *M. L. Washburn, p. 488.*

Alaska for thirteen years, and for the last five years have been traveling, in the early summer months of each year, buying furs from Kadiak Island east to Prince William Sound west; occasionally I made trips as far east as Yakutat Bay and as far west as Chignik Bay. * * * I annually visit nearly all the settlements in this region and many of the uninhabited islands.

I, Seth M. Washburn, depose and on oath say: That I am 42 years of age, and reside in Bethel, Vermont, where I have been a merchant since 1878. I was born in Randolph, Vermont, and lived there until 1874. I was a graduate of the State Normal School of Vermont, and in 1874 was employed by the Alaska Commercial Company, the late lessees of the Alaska seal fisheries, to go to the island of St. Paul, of the Pribilof group, as assistant agent and teacher. I went there in 1874 and remained continuously until 1877, my residence there covering four sealing seasons. My duties as assistant agent required me to familiarize myself with the habits of the seals, the manner of driving them from the rookeries, and the killing them and preserving their skins. In doing this the rookeries were under my daily observation. Moreover, from the isolated character of the life on St. Paul Island and the fact that the whole business and resources of the islanders and the other employes of the lessees were based on the seal product, the habits and peculiarities of these animals was the principal and overshadowing subject of conversation and observation among the inhabitants.

Elkan Wassermann, having been duly sworn, deposes and says: I am 53 years of age. I reside in San Francisco. My occupation is that of a merchant. I have been engaged in buying furs for the last thirty years. I have examined and bought a great number of seal-fur skins during that time. Some were skins taken by hunters off the coast of California, and others from the coasts of British Columbia, Alaska, and Japan; and I have also bought skins from other dealers. Some were shot and some were speared.

Watkins, being duly sworn, deposes and says: That I am a native Makah Indian, and reside at Neah Bay, on the Indian Reservation, in the State of Washington, United States of America. My age is about 35 years, and I am a hunter and fisherman by occupation. I have been hunting seals all my life or since I was old enough. Previous to ten years ago I always hunted seals with a spear in a large canoe, and from 20 to 30 miles around Cape Flattery and from 60 to 100 miles up and down the coast.

Daniel Webster, being duly sworn, deposes and says: I am 60 years of age, and am a resident of Oakland Cal.; my occupation is that of local agent for the North American Commercial Company, and at present I am stationed on St. George Island, of the Pribilof Group, Alaska. I have been in Alaskan waters every year but two since I was 14 years of age. I first went to Bering Sea in 1845 on a whaling voyage, and annually visited those waters in that pursuit until 1868, at which time the purchase and transfer of Alaska was made to the United States; since that time I have been engaged in the taking of fur-seals for their skins.

In 1870 I entered the employ of the lessees of the Pribilof Islands and have been so engaged ever since, and for the last thirteen years have been the company's local agent on St. George Island, and during the sealing season have, a part of the time, gone to St. Paul Island and took charge of the killing at Northeast Point, which is known to be the largest fur-seal rookery in the world. For ten years prior to 1878 I resided most of the time at Northeast Point, having landed and taken seals there in 1868. I have had twenty-four years' experience in the fur-seal industry as it exists in the waters of the North Pacific and Bering Sea, and have made a very careful study of the habits and conditions of this useful animal.

Weekennesch, being duly sworn, deposes and says that he is a chief of the village of Mehulet (Barelay Sound), and a resident of this village. *Weekennesch, p. 311.*

P. S. Weittenhiller, being duly sworn, deposes and says: I have resided at Sitka the past nine years. Am now owner of the sealing schooner *Clara* and have engaged in sealing this season. I first took seal off Sitka Sound during the month of March. Have done my sealing all this year between Cape Edgecombe and Cross Sound. *P. S. Weittenhiller, p. 274.*

Charley White, being duly sworn, deposes and says: I am about 40 years old, and am a native Makah Indian. I reside on the Indian Reservation at Neah Bay, State of Washington, United States of America. I am by occupation a hunter and fisherman, and have been so engaged all my life. I have hunted seals in canoes all along the coast between Grays Harbor and the northern end of Vancouver Island. *Charley White, p. 395.*

Michael White, being duly sworn, deposes and says: I am 50 years of age. I reside in East Oakland. My occupation is master mariner, and I have been so engaged for twenty-seven years, off and on. I have been engaged in seal-hunting during the years 1885, 1886, 1887, 1888, and 1889, in the North Pacific and Bering Sea. I first went out in 1885 in the schooner *City of San Diego*, chartered by myself and others. * * * In 1886 I was master of the schooner *Terese*. * * * In 1887 I was master of the schooner *Lottie Fairfield*. * * * In 1888 I took the schooner *Undaunted* on a fishing and sealing voyage. * * * I did the same in 1889. *Michael White, p. 489.*

William Wiefert, being duly sworn, says: I am 47 years of age, a citizen of the United States, and a resident of the city of Brooklyn, State of New York. I am, and have been for the last six years, the superintendent of the manufacturing department of the house of Asch & Jaeckel, which carries on a general wholesale fur business in the city of New York, and between the years of 1880 and 1886 I was the foreman of this establishment. Prior to 1880 I had already handled large numbers of fur-seal skins, and since the time when I entered the employ of Asch & Jaeckel I believe I have handled, assorted, and closely inspected at least 100,000 dressed and dyed fur-seal skins. During the past two years I have handled large numbers of northwest-coast skins (*i. e.*, skins of animals taken in the Pacific Ocean or in Bering Sea). *Wm. Wiefert, p. 535.*

Billy Williams, being duly sworn, deposes and says: I was born at Kas-aan and have lived there all my life. Am 25 years old. Am a hunter by occupation, and have hunted fur-seal every year for the last five years, always hunting in Dixons Entrance and off Prince of Wales Island between March and June.

C. A. Williams, being duly sworn, says that he is a citizen of the United States and a resident of the city of New London, in the State of Connecticut, and is 63 years of age.

First. That he was a member of the firm of Williams & Haven, whose business has of late been carried on by him under the firm name of C. A. Williams & Co.; that said firms have been and the latter still is engaged in the whaling and seal-hunting business, and prior to the formation of said firm of Williams & Haven, upwards of forty years ago, the same business was carried on by deponent's father and grandfather, from the beginning of this century. That during the time said business has been in deponent's hands he has employed upwards of twenty-five vessels in the sealing business and has had as many as eight or ten vessels at one time engaged in that business. That deponent's vessels have taken seals during the last forty years from the North Pacific, Cape of Good Hope, Cape Horn, South Shetland Islands, South Georgia, Crozetts, Desolation Islands, Sandwich Land, and Gough Island.

That immediately after the cession of Russian America to the United States deponent dispatched the American bark *Peru* to the Bering Sea from Honolulu (where deponent at that time had for some years been residing), for the purpose of investigating the possibilities of seal fishing in that locality. That about the year 1870 deponent was associated with several other gentlemen in forming the Alaska Commercial Company, which company obtained, in the year 1870, a lease from the United States Government for a period of twenty years of the right to take seals on the Pribilof Islands, in the Bering Sea, those islands consisting of St. Paul, St. George, and Walrus islands. At the expiration of the said lease, in 1890, the United States Government invited bids for a lease for a second period of twenty years, and a lease was given to the North American Commercial Company, and in this company deponent has never had any interest. That during the whole of the period which deponent has been engaged in this business it has had his close attention. Deponent has talked at great length with the captains of his various ships, most of whom are now no longer living, and with officers of the Alaska Commercial Company; he has also inspected many thousands of skins of seals caught by his vessels, and has also seen many thousands of skins in the warehouses of C. M. Lampson & Co., in London. The members of that firm at the present time are Sir George Lampson, Emil Teichman, Norman Lampson, and Alfred Fraser. The firm of C. M. Lampson & Co. receive, handle, and sell a very much larger number of seal skins than all the other houses in the world together. The whole catch of the Alaska Commercial Company was annually consigned to that firm for sale at public auction in the city of London, and much the larger proportion of all the other catches that have been made by deponent's vessels in other parts of the world have likewise been consigned to them; and the present lessees of the Pribilof Islands, deponent understands, still consign their catches to them, as

do the Russian Seal Skin Company, who are the lessees of the Russian islands in the Bering sea known as the Commander Islands.

Joseph D. Williams, being duly sworn, says: That he is 74 years of age, a citizen of the United States, and a resident of Brooklyn, in the State of New York; that he *Jos. D. Williams, p. 548.* has been engaged in the business of dressing and dyeing fur-seal skins continuously for fifteen years last past, and prior to that time at intervals during the whole time he has been engaged in business, during a period of some fifty odd years, he has dressed and dyed seal-skins, and that his father was engaged in the same business before him; that for the last 15 years he has had consigned to him by fur-dealers 8,000 to 10,000 seal-skins annually, for the purpose of dressing and dyeing the same.

Theodore T. Williams, being duly sworn, deposes and says: I am by profession a journalist, being at the present time employed as city editor of the San Francisco Examiner, and have been employed in that and similar capacities in the city of San Francisco for the past thirteen years. During that time, and in the pursuit of my profession as journalist, I have had occasion to make extended inquiries into the fur-sealing industry of the Aleutian Islands and the North Pacific. *Theo. T. Williams, p. 491.*

William H. Williams, being duly sworn, deposes and says: I reside at Wellington, Ohio, and am 55 years of age; that I am the United States Treasury Agent in charge of the seal islands in Bering Sea; that in pursuance of Department instructions to me of May 27, 1891, I made a careful examination during the sealing season of the habits, numbers, and conditions of the seals and seal rookeries, with a view of reporting to the Department from observation and such knowledge on the subject as I might obtain whether or not in my opinion the seals are diminishing on the Pribilof Islands, and, if so, the causes therefor. *W. H. Williams, p. 93.*

Fred. Wilson, being duly sworn, deposes and says: I am 23 years old; was born at Howka; am a hunter by occupation; have hunted fur seal the last eight years; have always hunted in Dixons Entrance and off Prince of Wales Island in May. *Fred. Wilson, p. 301.*

James Wilson, being duly sworn, deposes and saith: I reside at the settlement known as Fort Kenai, Cook's Inlet, Alaska, and have lived in the Territory for the past twenty-three years, chiefly in this region. I am at present agent for the Northern Packing Company at Fort Kenai, and have no practical knowledge of fur-seal life. *James Wilson, p. 228.*

Maurice Windmiller, having been duly sworn, deposes and says: My age is 46; I reside in San Francisco; my occupation is that of a furrier. I have been engaged in the fur business all my life, and my father was a furrier before me. I am an expert in dressed and undressed, raw, and made-up furs, and also a manufacturer and dealer in the same. I have bought and examined large numbers of fur-seal skins during the last twelve years, caught by sealing schooners both on the Russian *Maurice Windmiller, p. 550.*

and American side of the North Pacific and Bering Sea, and I can easily distinguish one from the other.

Wispool, being duly sworn, deposes and says: I am a native Indian of the Makah tribe, and reside on the reservation at Neah Bay. I am about 35 years old, and am by occupation a hunter and fisherman. I have hunted seals all my life, or since I was old enough to do so. I have sealed up and down the coast, between the mouth of the Columbia River and the upper end of the Vancouver Island and Barclay Sound. I am familiar with the bays and inlets along the coast.

Wispool, p. 396.

John Woodruff, having been duly sworn, deposes and says: I am 21 years of age. My occupation is that of a boatman. I live in San Francisco. I went on a sealing voyage last year in the schooner *Southerland*.

John Woodruff, p. 506.

Michael Wooskoot, being duly sworn, deposes and says: I am 60 years old; born and reside in Sitka, Alaska. Have been engaged in hunting seal for a great many years in the North Pacific Ocean around Sitka Sound.

Michael Wooskoot, p. 274.

Yabkah, being duly sworn, deposes and says: I was born at Yakutat. I am about 35 years old and belong to the Yakutat tribe of Indians. Am a hunter by occupation. I go from Tay Bay to Sitka Sound and come in contact with the people of different tribes of Indians.

Yabkah, p. 246.

Billy Yeltaehy, being duly sworn, deposes and says: I was born at Howkan and have lived there all my life; am about 24 years old, and am a hunter by occupation. Have hunted fur-seals the last two years in Dixon's Entrance and around Prince of Wales Island between March and June.

Billy Yeltaehy, p. 302.

Hastings Yethnow, being duly sworn, deposes and says: I was born in Kas-aan. Have lived there all my life, and am now 60 years old. Have hunted fur-seal every season since I was a boy. Have always hunted in Dixon's Entrance and off Prince of Wales Island.

Hastings Yethnow, p. 302.

Alf Yohansen, being duly sworn, deposes and says: I reside in Seattle; am a hunter by occupation; have hunted seals two seasons; one season on the *San José*, as hunter, and now as hunter on the schooner *Adventure*.

Alf. Yohansen, p. 368.

Paul Young, being duly sworn, deposes and says: I was born at Kasan and am 30 years old. Have lived at Kasan all my life; am a hunter by occupation; in the spring and early summer I hunt fur-seal in canoe.

Paul Young, p. 292.

Walter Young, being duly sworn, deposes and says: I was born at Howkan and have lived there all my life. I have hunted fur-seal for the past four years. Always hunted in Dixon's Entrance and off Prince of Wales Island.

Walter Young, p. 303.

Hish Yulla, being duly sworn, deposes and says: I am about 60 years old, and am a native Indian of the Makah tribe, and reside on the Neah Bay Reservation, *Hish Yulla*, p. 397. in the county of Clallam, State of Washington, United States of America. I have been a hunter and fisherman all my life. Years ago I used to hunt seals in the straits of San Juan de Fuca in the winter time, and in the summer time. I would hunt them in canoes from 10 to 20 miles off Cape Flattery, and of late years I hunt in a small canoe, and put it on a schooner, and go up and down the coast between the mouth of the Columbia River and Barclay Sound.

George Zammitt, being duly sworn, deposes and says: I am 31 years of age. I reside in San Francisco. I am a machinist by occupation. I made a sealing voyage *Geo. Zammitt*, p. 507. on the schooner *Seventy-six* about eight years ago. Captain Potts was master of her.

Pud Zaotchnoi, a native of Adia Island, of the Aleutian chain, 40 years of age, being duly sworn, deposes and says: I am second chief of the natives of the settlement of Atka, Atka Island, Alaska, and am a hunter of fur-bearing animals, principally the sea-otter and fox; I have never hunted the fur-seal. *Pud Zaotchnoi*, p. 213.

Thomas Zolnoks, being duly sworn, deposes and says: I am a native Makah Indian and reside on the reservation at Neah Bay, State of Washington, United States *Thos. Zolnoks*, p. 398. of America. I am 24 years old, and am by occupation a hunter and fisherman. I have been engaged in hunting seals ever since I was 9 or 10 years old. Until about 1880 I hunted seals in large canoes, in which I always used the spear. In the last eight or ten years I have hunted for seals in small canoes carried on schooners, and sailed off Cape Flattery from 20 to 75 miles, and as far south as the Columbia River, and north up to the passage into Bering Sea, but have never hunted for seals in those waters.

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Fogs are almost constant in Bering Sea in the summer time. During the fifty-eight days I cruised in those waters fifty-four days were foggy or rainy, the other four days being partly clear. On this account it is most difficult to seize vessels in Bering Sea. The reports of the guns of the hunters might often be heard when no vessel could be seen.

For fifteen or twenty days at a time I did not see the sun, and never while in Bering Sea did I see a star, the night being continually overcast or foggy. Our position was in nearly all cases determined by dead-reckoning or bearing of the land.

The meteorologic conditions in these latitudes are such that fogs and mists hang so continuously over the land and water as to make navigation very uncertain and dangerous. So all-enveloping are these vapors, that it is often impossible to see the shore a quarter of a mile distant, and so fickle are the fogs and mists that I ascended Bogaslov, the central cone of the island of St. Paul, five times before I could catch a glimpse of the hills immediately surrounding it, and this, too, when each occasion was selected for its promise of clearness. The temperature of the warm season averages about 45° or 50°, and, though no trees grow upon the islands, the excessive humidity is so favorable for grasses, flowers, and other herbage, that they grow with a rapidity and flourish with a luxuriance difficult to realize and unknown in the north temperate zone.

All these regions are particularly favorable for seal life; the raw, damp atmosphere, absence of sunshine, and uninhabited conditions being most advantageous to the existence of the species. All these regions described are uninhabited, excepting the Falkland Islands and Terra del Fuego, the latter being inhabited by the Indians, who only visit a few of the inshore rookeries.

In all of these localities the sky is constantly overcast; the sun never shines for more than an hour or two at a time, and around the more southern islands fogs are very prevalent. The temperature is always cold and damp, being about 40° F. during the summer.

The shores occupied by all these rookeries I have mentioned are of much the same character; there is a narrow beach line, from which cliffs rise abruptly to the height of 75 to 150 feet; through these are narrow crevasses in the rocks or small ravines, where streams flow into the sea; it is at such points the seals are to be found. The animals clamber up these rocks, often going where it is impossible for man to go. The climate of these localities is peculiar. The sky is constantly overcast, and during the summer the average temperature would be between 40° and 45° F. Rain falls nearly every day, keeping the atmosphere constantly moist, but no hard storms take place, the rain falling in misty showers. During the fourteen months I passed at West Cliff, heretofore mentioned, I had an excellent opportunity to examine and study the seals which frequent that coast. Along the coasts and islands near Cape Horn snow does not fall to any extent, and never remains for any length of time. No ice forms along the shore. There is very little difference in the temperature of winter and summer.

I also append to and make a part of this affidavit a table marked C, showing the daily temperature and state of the weather for the months of June and July during the years 1889 and 1890, compiled from observations taken by Dr. C. A. Lutz, on St. Paul Island.

C.—Table showing weather and temperature on St. Paul Island for June and July, 1889, and 1890.*

Day of month.	1889.						1890.					
	June.			July.			June.			July.		
	Temperature.		Weather.	Temperature.		Weather.	Temperature.		Weather.	Temperature.		Weather.
	Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
1.....	42	33	Foggy	45	40	Clear	37	33	Snow	40	40	Fog.
2.....	40	35	Cloudy	48	40	Hazy	34	32	Hazy	48	40	Do.
3.....	44	38	do	48	42	do	41	33	Clear	46	40	Clear.
4.....	48	40	do	48	41	Clear	42	31	Fine	47	39	Do.
5.....	47	39	do	49	40	Hazy	42	32	Clear	50	40	Do.
6.....	50	34	do	42	40	do	43	31	Fog	51	40	Do.
7.....	44	43	do	49	42	Thick fog.	44	38	Hazy	51	41	Do.
8.....	47	30	do	50	40	Rain.	48	39	Rain.	44	40	Do.
9.....	No record			45	42	Hazy	43	39	Thick fog.	46	41	Hazy.
10.....	44	38	Rain.	49	42	Thick fog.	44	34	do	47	42	Do.
11.....	43	40	do	51	41	Fog	43	37	do	48	43	Fog.
12.....	43	38	do	50	42	Clear	42	37	Fog	51	41	Do.
13.....	38	37	do	50	40	do	43	37	do	48	43	Do.
14.....	43	37	do	49	40	do	43	38	do	44	43	Rain.
15.....	42	37	Thick fog.	52	42	do	48	39	Raining	45	43	Fog.
16.....	43	37	Rain.	50	42	do	43	36	Fog	44	41	Do.
17.....	46	38	Cloudy	47	43	Hazy	45	37	Rain.	47	42	Do.
18.....	49	38	Rain.	48	42	do	44	37	Clear	47	42	Do.
19.....	49	30	Clear	52	42	Fog	40	37	Fog	50	40	Do.
20.....	45	37	Cloudy	49	41	Clear	45	39	Fine	49	40	Do.
21.....	46	38	do	49	43	Thick fog.	45	40	Rain.	54	44	Do.
22.....	45	38	do	50	44	Rain.	49	40	Clear	56	43	Do.
23.....	40	38	Rain.	48	42	Hazy	49	39	Hazy	53	45	Do.
24.....	42	39	Thick fog.	46	42	Fog	42	38	Fog	52	46	Do.
25.....	40	40	do	50	42	Hazy	45	40	do	52	45	Do.
26.....	49	40	Cloudy	44	44	Thick fog.	42	38	do	53	43	Do.
27.....	51	41	Clear	49	43	Hazy	44	39	do	53	46	Do.
28.....	50	41	do	48	43	Rain.	44	38	Hazy	49	45	Do.
29.....	50	40	Cloudy	48	42	Fog	43	40	do	48	44	Do.
30.....	50	40	do	50	43	Hazy	42	39	do	48	40	Do.
31.....				49	42	Fog				51	45	Do.

* Chas. J. Goff, p. 115.

The seal islands of St. Paul and St. George, geographically known as the Pribilof Islands, are situated in Bering Sea at about 170° west from Greenwich and 56° north latitude; and they are nearly 200 miles from the nearest land.

The climatic conditions in their immediate vicinity are so peculiar and their formation and situation are so unique that it is not hard to believe they were selected for a home and resting place by the Alaskan fur-seal because of their adaptability to that purpose, and to that only. The thermometer rarely goes higher than 60° or lower than zero; the average for a number of years being 35°.

In winter the islands are sometimes surrounded by broken ice, which comes from the north, and it will come and go with the tide and currents, generally from January to April, but occasionally remaining later, and again not appearing at all.

In June, July, and part of August, the islands are enveloped for days at a time in dense fog, and a clear sunny day is of rare occurrence. The atmosphere is damp and cool, and the rain falls in a sort of fine mist which drenches one through before it is felt.

The islands are of volcanic origin, and the shores are rough, uneven lava rock, and broken rock and boulders of like formation. On this rugged shore the Alaskan fur-seals make their summer home; here they are born and reared for the first six months of their existence; here they come every spring as regular as time, and here they reproduce their species.

Mean temperature (degrees F.) at St. Paul Island, Bering Sea, Alaska. Weather Bureau tables, Vol. I, p. 591.

[Latitude 57° 10' N., longitude 170° 01' W.; elevation, 30 to 50 feet.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1872	15.7	18.6	12.6	23.9	30.5	37.5	43.0	46.5	43.0	37.8	32.4	29.9	31.0
1873	29.9	33.5	33.0	34.5	39.0	44.4	49.1	50.8	47.3	40.2	37.8	33.3	39.4
1874	34.9	35.3	29.0	28.9	34.2	42.0	47.0	47.9	46.0	41.7	34.9	26.2	37.3
1875	31.4	16.5	23.0	20.2	32.7	38.7	43.2	43.3	.....	.....	25.1	20.4	.....
1876	13.2	3.0	25.4	25.4	32.5	39.4	42.0	45.8	41.0	36.6	28.6	23.1	29.7
1877	17.7	8.2	16.4	24.9	30.6	33.9	45.1	47.5	45.9	34.7	29.7	29.6	30.8
1878	30.0	23.4	25.1	28.3	34.1	.....	.....	.....	.....	.....	.....	.....	.....
1879	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880	.....	.....	.....	.....	.....	39.9	44.3	48.5	46.7	42.4	30.3	27.1	.....
1881	.....	.....	.....	.....	.....	41.8	40.9	47.4	44.5	40.3	35.7	22.4	35.7
1882	32.1	23.7	28.3	32.0	35.2	.....	.....	.....	.....	.....	.....	.....	.....
1883	30.2	26.0	19.9	21.5	34.6	.....	.....	.....	.....	.....	.....	.....	.....
Sums.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Means.....	26.1	20.9	23.6	27.3	33.7	40.4	45.2	47.2	44.9	39.1	32.7	26.5	34.0

* Twenty-six days.

REMARKS.—The mean temperature was obtained from the observations made at 7 a. m., 2, and 9 p. m., after the formula $\frac{1}{3}(7+2+9+9)$.

Maximum temperature (F.) at St. Paul Island, Bering Sea, Alaska.

[Latitude 57° 10' N., longitude 170° 01' W.; elevation, 30 to 50 feet.]

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1872									52	45	41	36	
1873	34	34	35	35	41	47	52	55	49	46	41	40	
1874	37	40	42	45	52	57	58	62	56	48	45	40	
1875	42	44	40	41	47	51	57	55	52	50	45	39	
1876	39	30	41	43	42	53	54	51			38	35	
1877	36	33	36	37	43	51	54	58	51	47	39	35	
1878	35	34	39	40	42				54	45	40	39	
1879	37	36	38	39	47								
1880													
1881						*51	57	56	53	50	43	42	
1882	38	39	38	42	50	52	59	55	54	49	42	30	
1883	36	39	38	37	46								
Sums													
Means													

* Twenty-six days.

Minimum temperature (F.) at St. Paul Island, Bering Sea, Alaska.

[Latitude, 57° 10' N.; longitude, 170° 01' W.; elevation, 30 to 50 feet.]

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1872									33	22	23	4	
1873	-11	-12	-7	3	19	28	36	39	35	31	23	12	
1874	8	19	19	21	25	34	42	44	39	32	26	22	
1875	19	21	12	17	25	34	39	43	41	33	28	15	
1876	23	8	3	5	22	30	35	38			15	-7	
1877	-17	-22	5	8	23	30	37	40	33	25	17	5	
1878	-10	-21	-13	3	20	31	39	40	33	29	18	11	
1879	18	-1	10	7	19								
1880													
1881						*35	35	45	38	32	32	18	
1882	19	3	13	10	19	31	39	41	34	31	22	4	
1883	13	8	-9	-1	27								
Sums													
Means													

* Twenty-six days.

REMARKS.—Minus sign (—) indicates temperature below zero.

*Actual number of fair days at St. Paul Island, Bering Sea, Alaska.**

[Latitude, 57° 10' N.; longitude, 170° 01' W.; elevation, 30 to 50 feet.]

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1873						7	2	3	8	9	8	11	
1874	10	10	9	0	14	4	1	7	13	15	14	20	120
1875	16	8	11	10	8	1	9	4	15	9	7	19	117
1876	20	12	13	6	6	7	1	2			17	6	
1877	14	10	4	8	6	4	0	5	15	8	15	7	96
1878	12	10	13	14	11	5	4	8	0	15	16	12	129
1879	21	12	14	11	7								
1880													
1881						*4	3	0	7	5	10	14	
1882	8	10	15	12	2	5	2	0	1	2	6	7	70
1883	2	18	10	20	11								
Sums	103	90	05	00	65	37	22	29	68	63	03	96	
Means	12.9	11.2	11.9	11.2	8.1	4.6	2.8	3.6	9.7	9.0	11.6	12.0	108.6

* Twenty-six days.

REMARKS.—A "fair" day has from 0.3 to 0.7 clouds.

Actual number of cloudy days at St. Paul Island, Bering Sea, Alaska.

[Latitude, 52° 20' N.; longitude, 170° 01' W.; elevation, 30 to 50 feet.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An- nual.
1873						23	29	28	21	22	21	19	.....
1874	29	17	21	20	16	26	30	24	15	15	14	11	229
1875	12	16	19	17	19	29	20	27	14	22	21	12	228
1876	10	8	14	20	25	23	30	29			10	22	.....
1877	13	8	25	20	25	25	21	26	15	22	14	20	244
1878	11	8	12	16	19	23	26	23	21	15	14	16	204
1879	9	10	14	19	24								.....
1880													.....
1881				9	13	*22	26	31	23	25	19	16	.....
1882	22	17	9	13	29	25	29	31	29	29	24	24	281
1883	29	9	15	10	20								.....
Sums	126	93	129	135	177	196	221	219	138	150	137	140	.....
Means	15.7	11.6	16.1	16.9	22.1	24.5	27.0	27.4	19.7	21.4	17.1	17.5	237.6

* Twenty-six days.

REMARKS.—A "cloudy" day has from 0.8 to 0.10 clouds.

Cloudiness, expressed in percentages, at St. Paul Island, Bering Sea, Alaska.

[Latitude, 57° 10' N.; longitude, 170° 1' W.; elevation, 30 to 50 feet.]

Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An- nual.
1872									92	85	79	84	.....
1873	63	74	68	73	94	87	96	95	83	90	83	82	82.3
1874	84	80	83	84	70	93	97	82	75	78	73	72	81.4
1875	74	78	83	71	77	95	80	93	70	84	77	73	80.1
1876	71	54	70	78	89	89	98	90			66	81	.....
1877	67	47	86	83	00	92	98	03	76	83	72	76	80.2
1878	58	49	63	81	82	84	89	88	82	76	74	74	75.0
1879	72	65	70	82	89								.....
1880													.....
1881						*92	87	08	91	87	80	79	.....
1882	82	79	57	66	97	91	98	99	98	96	92	90	87.1
1883	91	74	78	75	84								.....
Sums													.....
Means													.....

* Twenty-six days.

REMARKS.—The percentage of cloudiness was obtained from the eye estimates of the observer, recorded on a scale of 0 to 10 at each observation. The mean of all observations was used as the mean for the day. One hundred per cent represents a sky completely overcast.

HOME OF THE FUR-SEAL.

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We have never heard of, and have no knowledge of, fur-seal pups being born elsewhere than on the rookeries of the seal islands in Bering Sea, nor do we know of any rookeries other than those above mentioned. *Jno. Alexandroff et al, p. 229.*

I do not know of any rookery except those on the seal islands of the Bering Sea. *Chas. Avery, p. 218.*

I have never seen any but a few straggling seals in Cook Inlet, and these only on rare occasions. I have never heard of any fur-seal rookeries in the North Pacific other than those on the seal islands of Bering Sea; and am positive that none exist in the vicinity of Cook Inlet. *J. A. Bradley, p. 227.*

Erratt, of San Francisco, last year induced parties of that place to fit out the schooner *Lily L.* on the face of his positive statement that a fur-seal rookery existed in the vicinity of Cook Inlet. The enterprise was a total failure, however, no rookery being found, although a long and diligent search was made for it.

Many explanations have been offered of the seals having selected these islands as their home. My observation does not enable me to state their reason for having done so, but the fact remains substantiated by my experience and that of all others of whom inquiries were made that these remote, rock-bound, fog-drenched islands are the chosen resort of the fur-bearing seal (*Callorhinus ursinus*). The more jagged and irregular the lava fragments that cover the shore, the more continuous the drenching they receive from the moisture-laden atmosphere, the better the seals seem to like it. Neither from personal observation, from inquiries of the natives on the islands and the villages of the Aleutian chain, nor from questioning seafaring men, who, by opportunity for observation and general intelligence, were competent to inform me, could I learn of any other land area ever having been selected by this herd of fur-seal for its residence and for the perpetuation of its species.

The Alaskan seals make their home on the Pribilof Islands because they need for the period they spend on land a peculiarly cool, moist, and cloudy climate, with very little sunshine or heavy rains. This peculiarity of climate is only to be found on the Pribilof and Commander islands, and during my long experience in the North Pacific and Bering Sea I never found another locality which possessed these conditions so favorable to seal life. Add to this fact the isolated condition of the seal islands, and we can readily see why the seals selected this home.

We have never known of fur-seal pups being born elsewhere than on the rookeries of the seal islands in Bering Sea. Neither have we any knowledge of the existence of any fur-seal rookeries other than those above mentioned.

Neither have I any knowledge of a fur-seal rookery existing anywhere except on the seal islands of Bering Sea.

The Pribilof Islands are the chosen home of the fur-seal (*Callorhinus ursinus*). Upon these islands they are born; there they first learn to swim, and more than half of their life is spent upon them and in the waters adjacent thereto. Here they give birth to their young, breed, nurse their pups, and go to and come from their feeding grounds, which may be miles distant from the islands.

I have traveled extensively through the Territory from Sitka to the Yukon River, and am positive that no fur-seal rookeries exist in the region other than those on the seal islands of Bering Sea. Neither have I ever heard any reliable information of the existence of other fur-seal rookeries.

In my opinion, fur-seals born on the Copper, Bering, or Robbin islands will naturally return to the rookery at which they were born. The same thing is true of those born on the St. Paul or St. George islands. *William Brennan p. 358.*

The reason the seals have chosen these islands for their home is because the Pribilof group lies in a belt of fog, occasioned by the waters of the Arctic Ocean coming down from the north and the warmer waters of the Pacific flowing north and meeting at about this point in Bering Sea. It is necessary that the seals should have a misty or foggy atmosphere of this kind while on land, as sunshine has a very injurious effect upon them. Then, too, the islands are so isolated, that the seal, which is a very timid animal, remains here undisturbed, as every precaution is taken not to disturb the animals while they are on the rookeries. The mean temperature of the islands is during the winter about 26° F. and in summer about 43°. I know of no other locality which possesses these peculiarities of moisture and temperature. * * *

While I was acting as purser on the steamer *Constantine* I observed during the months of January, February, and March numerous seals in the inland waters or along the coast between Port Townsend and Sitka. Never a day passed but on looking over the rail seal could be seen sleeping on or disporting in the waters. One day in the bay of Sitka I saw several hundred seals asleep in the water, but at the splash of an oar they immediately disappear. These seals were in all cases much more timid than about their island home, where they evidently realize they are practically safe.

I do not know of any rookery other than those of the seal islands in Bering Sea. *F. F. Feeny, p. 220.*

I have never heard of fur-seal pups being born anywhere except on a rookery, and I have no knowledge of any fur-seal rookeries in Alaska other than those on the seal islands of Bering Sea. *Vassili Feodor, p. 231.*

I do not know of any rookery outside of the seal Islands of the Bering Sea, nor have I heard of any other. *William Foster, p. 220.*

Neither have we any knowledge of the existence of any seal rookeries, except those on the seal islands of Bering Sea. *Nicoli Gregoroff et al., p. 234.*

I have never heard of, nor have no knowledge of, fur-seal pups being born elsewhere in the northern hemisphere than on the rookeries of the seal islands of Bering Sea. Neither do I know of any other rookeries than the aforesaid. *A. J. Guild, p. 232.*

There are no fur-seal rookeries in the Aleutian Islands that I know of; in fact I have never heard of any in the region besides those on the several well-known seal islands of Bering Sea. *Charles J. Hague, p. 208.*

I have never heard of, nor have I any knowledge of, any fur-seal rookeries in the North Pacific other than those on the seal islands of Bering Sea.
Norman Hodgson, p. 367.

Neither do I know of any fur-seal rookeries other than those on the seal islands of Bering Sea.
Frank Korth, p. 235.

I know of no rookeries in the North Pacific other than those on the seal islands of Bering Sea, and have never heard of any others from a reliable source.
E. L. Lawson, p. 221.

The Alaska fur-seals breed only on the islands of St. Paul and St. George, of the Pribilof group, in Bering Sea. They have been unsuccessfully searched for at every other point along the coast. In 1872 Captain Archimandritoff spent the greater part of the summer in a schooner looking for a reef or island alleged to lie to the southward of Unalaska. His cruise was fruitless, not only at this point, but at several others where he was led by some legendary tale or delusive dream to expect to find seal rookeries. Since that date the coast has been explored at every point, and it may be safely stated as a fact that no other rookeries exist on the northwest coast of the North American continent or the islands adjacent thereto.
H. H. McIntyre, p. 40.

The seals are migratory and return, as I believe, after migration to the vicinity and probably to the ground or rookery on which they were born. I have in several cases seen a certain seal with his harem during a number of consecutive seasons in the same spot. They are attracted to the islands in preference to other places by closely defined hereditary habits of migration, which take them from and to their breeding places with constant regularity, varied only within the limit of a very few days by meteorological conditions. The isolation and climate no doubt first induced their habitat upon these islands. If there has been any authentic observation of the birth of seals at other points on the northwest coast of North America, which I very much doubt, the case was anomalous and accidental. No doubt the young are occasionally aborted, out of season and out of place, and such birth may, perhaps, have been witnessed, but should not form the basis for any valuable deduction in locating the home of the animals.
H. H. McIntyre, p. 40.

The fur-seals of Alaska are bred and born on the islands of the Pribilof group in Bering Sea, where they find combined the conditions requisite to their existence, of isolation, climate, and proximity to food supply. * * *

They evidently have no fixed or definite "hauling ground" to visit [after leaving the islands], as it would have been discovered long since; but as they can sleep as well as find food at sea; they have no occasion to land until warned by the reproductive instinct to return to the place of their birth—their home—which they do, and are often found at precisely the place occupied during the preceding season or seasons. In evidence of this I have observed seals bearing unmistakable marks for identification return to the same spot year after year.
H. W. McIntyre, p. 136.

I have never seen nor heard of any fur-seal rookeries in the Northern Hemisphere other than those on the several seal islands of Bering Sea; and have never seen fur-seals in great abundance save on and near the Pribilof Islands. *N. B. Miller, p. 372.*

We have never seen fur-seal pups about this part of the coast, and have no knowledge of any being born outside of the rookeries on the seal islands of Bering Sea. *Metry Monim et al., p. 226.*

I believe that the cause the seals chose these islands for their home is because of the isolation of these Pribilof Islands and because the climatic condition of said Pribilof Islands is particularly favorable to seal life. During the time the seals are upon land the weather is damp and cool, the islands being continually enveloped in fogs, the average temperature being about 41° F. during the summer. *T. F. Morgan, p. 61.*

It is now well established that, outside of the Pribilof group, there are no other islands or grounds in Northwest America where the seals haul up for breeding purposes. These islands are their natural and permanent home, without which they could not exist. They leave it only when necessity demands and return to it as soon as the climatic conditions make it possible for them to do so. Here they find that protection and supervision indispensable to the reproduction of their kind and the multiplication of their numbers. *Jno. M. Morton, p. 70.*

The Pribilof Islands, by reason of their isolated location, cool and humid climate, rocky shores, and the fog which prevails from early spring to late autumn, are peculiarly well fitted to be the home of the fur-seal. *S. R. Nettleton, p. 75.*

The Alaskan fur-seal is a native of the Pribilof Islands, and, unless prevented, will return to those islands every year with the regularity of the seasons. All the peculiarities of nature that surround the Pribilof group of Islands, such as low and even temperature, fog, mist, and perpetually clouded sky, seem to indicate their fitness and adaptability as a home for the Alaska fur-seal; and with an instinct bordering on reason they have selected these lonely and barren islands as the choicest spots of earth upon which to assemble and dwell together during their six months' stay on land; and annually they journey across thousands of miles of ocean, and pass hundreds of islands without pause or rest, until they come to the place of their birth. And it is a well established fact that upon no other land in the world do the Alaskan fur-seal haul out of water. *J. C. Redpath, p. 148.*

The certainty that the seals caught in the North Pacific are in fact a portion of the Pribilof herd, and that all are born and reared for the first few months upon the islands of that group, naturally leads the observer to regard them as quite domesticated and belonging upon their island home. The more orderly way to describe them, therefore, would be to *C. M. Scammon, p. 475.*

commence with their birth upon the island and the beginning of their migrations rather than at the end of some one of their annual rounds away from home.

Alexander Shyha, p. 226. I have never seen or heard of any fur-seal rookery outside of Bering Sea.

I have no knowledge of, and have never heard of, the existence of any fur-seal rookeries in the Northern Hemisphere,
Jno. W. Smith, p. 223. other than those on the seal islands of Bering Sea.

I have never seen and have no knowledge of any fur-seal rookeries in the region other than those on the Pribilof Islands, and have never seen fur-seals in any great abundance save on and near said islands.
Z. L. Tanner, p. 485.

In my twenty-three years' experience as a whaler in Bering Sea and the North Pacific, during which time I visited
Daniel Webster, p. 180. every part of the coast surrounding these waters, and my subsequent twenty-four years' experience on the seal islands in Bering and Okhotsk seas, I have never known or heard of any place where the Alaskan fur-seals breed except on the Pribilof Group in Bering Sea. These islands are isolated and seem to possess the necessary climatic conditions to make them the favorite breeding grounds of the Alaskan fur-seals, and it is here they congregate during the summer months of each year to bring forth and rear their young. * * *

Hair-seal and sea-lions haul out on the Islands and are seldom disturbed, yet they will plunge into the water at once should they discover anyone upon their rookeries, but it is not so with the fur-seal. They seem at home on the rookeries and hauling grounds, and they show a degree of domestication seldom found among similar animals.
Danl. Webster, p. 182.

ST. PAUL AND ST. GEORGE.

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This little group of islets, consisting, in the order of their magnitude, of St. Paul, St. George, Otter, and Walrus islands, were created in the shallow waters of Bering Sea by volcanic agency. Outpour upon outpour of basaltic lava gave to St. Paul, low-lying sea margins which the waves and ice ground into boulders, pebbles, and sand, and distributed into long reaches of sandy shore at several points. The island lies to day, except for these minor changes, just as it was created. Cliffs are infrequent and there are from 20 to 25 miles of alternating areas of sand, rocky ledges, and boulder-covered shores that could be made available, did an expanding herd demand it, for the uses of the seal. About 37 or 38 miles to the southeast lies the second largest of the group, St. George, which, though formed in the same manner as its neighbor, has nevertheless been so modified by orographic movement as to form a strong contrast to it topographically. Bold, towering cliffs are the rule, low-lying shores are rare, and it can boast of only about 6 or 8 miles of really satisfactory rookery space along the entire sea front. As a natural result St. Paul can and does support a far greater seal population than St. George.

The greatest length of either of these islands would be covered by 12 miles, while 6 would easily span them at their widest part. Otter and Walrus islands, the former about 6 miles to the southward and the latter about 7 miles to the eastward of St. Paul, are mere rocky remnants and now play no part as breeding grounds for the seal, and it is questionable if they ever did. The islands are far removed from other land areas, the nearest point on the Aleutian Archipelago lying 20 miles to the southward.

As a result of the volcanic origin of the islands their shores are, with few exceptions, either made up of boulder-strewn lava ledges or covered by jagged fragments of basalt of all sizes, the sharp edges of which are only slightly worn by the seals' flippers or more completely rounded by the waves at the water's edge. There are a few true sand beaches; occasional level areas are found at the back of the rookeries, and in some places between the rock masses comparatively smooth interspaces occur, but even the level portions referred to must be reached by crossing a wide belt of boulders of all sizes that have been pushed landward by the waves and by the ice which annually surrounds the islands. It is upon such shores that the seal "rookeries" are located. Of the ruggedness of these shores or of the irregularity and confusion of the lava blocks that cover them it is difficult to form a picture, but it is in a measure indicated in the accompanying photographs.

BREEDING GROUNDS.

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A rookery thus presents two distinct features structurally, while from the standpoint of the seal life thereon there are again the two well-recognized divisions of "breeding grounds" and "hauling grounds." The word "rookery" is a general one and includes the specific terms "breeding grounds" and "hauling grounds." *J. Stanley Brown, p. 12.*

In general and by preference the more rocky areas are selected by the females as "breeding grounds," and here, of course, the breeding bulls are found; while the young, immature males or bachelor seals are relegated to the adjacent sandy shores or smoother spaces at the rear of the rookeries for their "hauling grounds."

Over these masses of rock the females scramble and stumble during the entire breeding season, and in maintaining the control of his household the bull dashes here and there, striking repeatedly against the sharp edges of the rocks with a force that to the onlooker would seem to threaten his life. * * *

Shoreward the limit of a breeding rookery is sometimes defined by topographic conditions, as in the case of a bluff, but the seal life present in any one year upon the breeding ground is the true standard for the determination of boundaries. Upon the large scale charts A, B, C, D, E, F, G, H, I, J, K, will be seen the approximate areas occupied as "breeding grounds" in 1891, as observed by me, while the areas for certain previous years have been indicated by other observers.

I made a survey of said islands and also of the seal rookeries on both of said islands. The charts signed by me and marked A, B, C, D, E, F, G, H, I, J, and K were *J. Stanley Brown, p. 20.* made by me during said survey of said rookeries

and represent the grounds covered by the same. The gray color on said charts so signed by me, and the red color on the reprints of the same, represent the places occupied by breeding seals in 1891, which said spaces were covered by groups of said seals. The white spaces on said original charts, as explained by legend on reprints, represent the grounds over which seals have at various times hauled, as is plainly indicated by the condition of said areas.

The grounds occupied by the seals for breeding purposes are along the coast, extending from high-water mark back to the cliffs, which abound on St. George Island.
Samuel Falconer, p. 161.

It may be said in the start that the grounds held by the fur-seals are known at the islands as "rookeries" and "hauling grounds." On the former are found the breeding seals, viz, the full-grown males not less than six years of age, and females of three years old and upwards. The grounds comprising the rookeries slope upward from the sea in a gradual and easy manner, and are characterized by hard dry surfaces of volcanic cement or basaltic rock. They are readily accessible from the water and possess other favorable conditions for occupancy by the seal life.
John M. Morton, p. 66.

HAULING GROUNDS.

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An inspection of the general map of St. Paul Island will show that there are now existing thereon practically ten rookeries, some of which, however, coalesce.
J. Stanley Brown, p. 13.

These rookeries are: Northeast Point, Little Polavina, Big Polavina, Lukannon, Ketavie, Reef, Garbotch, Lagoon, Tolstoi, Zapadnie.

Upon the Island of St. George it will be seen that there are five rookeries: Great East, Little East, North, Starry Arteel, Zapadnie.

* * * * *

The area of a "hauling ground" is an ever-changing quantity, but the locality at which bachelor seals hauled in 1891 and the approximate areas hauled over is also indicated on the charts.

The young males or "bachelors," not being allowed to land on these breeding places, lie back of and around these breeding grounds on areas designated "hauling grounds."
Samuel Falconer, p. 161.

CENSUS OF SEAL LIFE IMPOSSIBLE.

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In 1873 I assisted Prof. Henry W. Elliott in making his measurements and estimates of the number of seals on St. George Island. We set up stakes at some distance from the breeding rookeries while they were
Samuel Falconer, p. 161.

occupied. Then when the seals were gone we sighted along these stakes to determine the back lines of the rookeries and measured the areas thus determined with a tape line, using our judgment by observing the nature of the ground to determine the curvature of these areas. We then calculated from our observations three seals to a square yard, and multiplying the yards in the areas measured by three made our estimate. I think the measurements were made as accurately as could be done by the means and instruments employed; however, I am convinced that no estimate of any kind, no matter how accurately the measurements are made, would give even approximately the number of seals on the island, for the animals are constantly in motion, coming and going, and there seems to be almost as many in the water as on land. It is as impossible to estimate them as it is to estimate a swarm of bees. But accurate measurements would show conclusively, if made from year to year, whether or not the seals were increasing or decreasing.

I do not think that the number of seals on the rookeries can be even approximately estimated. No satisfactory measurement of the breeding grounds on which to base an approximation of the number of seals has ever been or can be made. And, even if such measurement could be made, the broken nature of the ground, the inequality of distribution of the seals while on land, and the fact that the females are constantly coming and going, preclude the possibility of any sort of calculation which could be of any value at all. *H. A. Glidden, p. 110.*

Even if these measurements had been correct, which was impossible, I do not believe it is possible to calculate even approximately the number of seals upon the rookeries, because of the broken nature of the ground and the irregular outlines of the breeding grounds. *Abial P. Loud, p. 88.*

The total number of seals was stated in that report to be "not less than 4,000,000 upon the two islands." I am satisfied that this estimate was too high, and that the more recent estimates published in the reports of officers of the Treasury Department who have been at different times stationed upon the islands, or detailed to report upon the sealeries, have been still more erroneous than my own. My figures were made without any attempt at mathematical computation, and were mere guesses at the possible number of seals upon the different rookeries. *H. H. McIntyre, p. 48.*

My successors have attempted to measure the ground occupied by the seals, and by multiplying the number upon a given area as ascertained by count, by the whole area of the rookeries, to arrive at an approximation to the total number. They added to their computation a large percentage to cover the number supposed to be in the water at the time, but did not subtract for the inaccessible portions of the grounds, vast tracts of which are covered with bowlders and lavarocks, where no seals could lie, or skirted with acclivities they could not ascend. That is, the estimates were made from measurements necessarily taken after the seals had left the rookeries, and sometimes weeks or months afterward, with only the recollection of the ground they had formerly occupied to guide the observer. Many sections were included

which had been but thinly populated, if at all. An attempt to secure even an approximative census of seals may well be regarded with suspicion.

I believe that it is utterly impossible to even approximately estimate the number of seals which resort to these islands. I do not mean that it is impossible to measure the breeding rookeries, for that can be done by the use of surveyors' instruments with practical accuracy, but after the measurements are made, it is impossible to estimate the number of seals contained in these areas, the ground being covered with broken rocks of all sizes, some weighing over a ton, between which the seals lie, so that where the large rocks are not so thick there will be a greater number of seals; thus all over the rookeries the density of seal life varies, and besides this the seals are constantly in motion, the females coming from and going to the water. I do not believe any estimate of the number of seals on the islands heretofore made can be relied upon at all, as there may in reality be twice as many seals as estimated, or half as many.

It is utterly useless to endeavor to estimate the number of seals on the islands. One might as well try to estimate a swarm of locusts, for they are constantly in motion, never for an instant seeming to be at rest. The breeding rookeries can, of course, be measured from year to year, and these measurements would show an increase or decrease of seal life, for the harems on the rookery are in close proximity, whether there are few or a great many of them.

The areas covered by these rookeries are very broken and uneven, on account of the huge masses of rock which are distributed in unequal quantities over the surface of every rookery. Therefore, to count the seals on a given area and use that to estimate the whole number on the rookery would be absurd. The estimates of the number of seals which have been made heretofore are entirely unreliable in my opinion, and no dependence or calculations should be based on such guesses.

But the number of seals can not be estimated with even approximate accuracy, because of the roughness and unevenness of the ground, and because, during the height of the season, a majority of the females (called cows) are out at sea feeding, being often obliged to go 30 or more miles from the islands for this purpose, and not returning till late at night. I think the number of seals heretofore estimated has been largely exaggerated, and no dependence can be placed on any estimate as to their numbers.

It is impossible to estimate with any sort of accuracy the number of seals on the Pribilof Islands, because of the seals being constantly in motion, and because the breeding grounds are so covered with broken rocks of all sizes that the density varies. I think all estimates heretofore made are unreliable, and in the case of Elliot and others who have endeavored to make a census of seal life, the numbers are, in my opinion, exaggerated.

DETERMINATION OF INCREASE OR DECREASE OF SEALS.

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The compact order in which the breeding seals arrange themselves upon the "rookeries" upon their arrival in the spring, completely filling the ground first taken *H. N. Clark, p. 159.* before spreading over adjoining space, enables one to see at a glance, as the season advances, whether, if he remembers the land marks to which they filled out in former years, they have grown more or less numerous.

Yet their habits are so well defined and unvarying that it is an easy matter to determine whether they increase or decrease from year to year, because they always *H. H. McIntyre, p. 48.* occupy the same portions of certain beaches, and simply expand or contract the boundaries of the rookeries as they become more or less numerous.

The rookeries are covered by the breeding seals in a very compact and regular manner. There is no evidence of crowding or bunching in one place, or scattering *J. M. Morton, p. 67.* in another, and apparently no spaces within their limits, suitable for occupancy, which are not covered. It is evident from this systematic arrangement and distribution that any expansion or contraction which may take place of the rookery boundaries must show a corresponding increase or diminution of their population; and further, that as the rookeries enlarge or diminish, so in a like ratio will the general body of the seal life be affected. By careful and intelligent study, then, of the breeding grounds, any material changes which may take place from year to year in the numerical condition of the seal life on the two islands may be determined.

But it is impossible to determine by close observation from year to year whether the seals are increasing or decreasing, because the seals crowd together in the same *J. H. Moulton, p. 71.* manner, whether there are a few or a great number, and as they increase the rookeries necessarily extend.

I do not pretend to be able to say how many seals there are, or ever were on the rookeries; nor do I believe anybody else can tell; for the rookeries are so broken and *J. C. Redpath, p. 151.* filled with rocks it is impossible to estimate the number of seals upon them with any approach to accuracy. The lines of expansion and contraction are plain enough, and can be seen and understood by the whole community.

I believe that the increase and decrease of seal life can be certainly told from accurate measurements of the breeding grounds, because the seals herd together as closely *W. B. Taylor, p. 176.* as possible, whether there are few or many of them.

The density of the seal population on the rookeries is the same each season; an increase of seal life simply extends the space occupied by the rookeries. By observing *S. M. Washburn, p. 155.* each year the extent of ground covered with breeding seals and comparing it one year with another an observer can

easily determine whether the seals are stationary, increasing, or diminishing in numbers.

Measurements of the breeding grounds, however, show an increase or decrease of the number of seals, because the harems are always crowded together as closely as the nature of the ground and temper of the old bulls will permit.

THE ALASKAN SEAL HERD.

DISTINCTION BETWEEN ALASKAN HERD AND RUSSIAN HERD.

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I can tell by examining a skin whether it was caught in season or out of season, and whether it was caught on the Russian side or on the American side. A Russian skin is generally coarser, and the under wool is generally darker and coarser than the skins of the seals caught on the American side. A Russian skin does not make as fine a skin as the skins of the seals caught on the American side, and are not worth as much in the market. I can easily distinguish one from the other.

The herd to which the 2,170 seals above referred to belong, and known as "Russian seal," and have no connection whatever with the seals taken on the coast of North America or in the Bering Sea, and known as the Northwest seal, the herd that have their rookery on the Pribilof Islands.

That the differences between the three several sorts of skins last mentioned are so marked as to enable any person skilled in the business, or accustomed to handle the same, to readily distinguish the skins of one catch from those of another, especially in bulk, and it is the fact that when they reach the market the skins of each class come separately and are not found mingled with those belonging to the other classes. The skins of the Copper Island catch are distinguished from the skins of the Alaska and Northwest catch, which two last-mentioned classes of skins appear to be nearly allied to each other, and are of the same general character, by reason of the fact that in their raw state the Copper skins are lighter in color than either of the other two and in the dyed state there is a marked difference in the appearance of the fur of the Copper and the other two classes of skins. This difference is difficult to describe to a person unaccustomed to handle skins, but it is nevertheless clear and distinct to an expert, and may be generally described by saying that the Copper skins are of a close, short, and shiny fur, particularly down by the flank, to a greater extent than the Alaska and Northwest skins.

I learned that fur-seals of the species *Callorhinus ursinus* do breed and haul out at the Commander Islands and Robbin Reef, but the statements made to me were unanimous that they are a separate herd, the pelt

of which is readily distinguishable from that of the Pribilof herd, and that the two herds do not intermingle.

Deponent further says that the distinction between the skins of the several catches is so marked that in his judgment he would, for instance, have had no difficulty had *Alfred Fraser, p. 538.* there been included among 100,000 skins in the Alaska catch 1,000 skins of the Copper catch in distinguishing the 1,000 Copper skins and separating them from the 99,000 Alaska skins, or that any other person with equal or less experience in the handling of skins would be equally able to distinguish them.

In the pursuit of my business I have had an opportunity to buy and examine fur-seals taken from the Commander Islands, and can readily distinguish them from the *George Liebes, p. 511.* northwest coast catch and those taken from the Pribilof Islands. They are evidently a distinct and separate herd, as the foundation of the fur is much coarser, and at the same time does not cover the belly as thickly as on the Alaska seal and is of very much less value. The proof of this is that the Commander Island skins bring 30 per cent less in the market than the Alaska skins. From my knowledge and experience in the purchase and handling of fur-seal skins I know that the skins taken from seals along the coast and those taken from the Pribilof Islands belong to the same herd. In buying the skins taken from seals caught by hunters in the Bering Sea, the price is usually made for the lot as it runs without any limitation as to yearlings, the yearlings not averaging more than 2 per cent, whereas the coast skins are always bought with a limitation as to yearlings, one price being made for the skins and the other for the yearlings. In these lots the yearlings usually average 10 per cent.

I herewith attach samples of dressed and dyed fur-seal skins of the Alaska seals, labeled as follows:

Exhibit No. 1, showing the teats on the belly of a virgin female.

Exhibit No. 2, showing the teats on a cow heavy with pup.

Exhibit No. 3, showing teats on a cow suckling pups.

Exhibit No. 4, showing teats on a batchelor seal.

Exhibit No. 5, showing the teats on a wig.

The seals to which I have thus far had reference are known to myself and to the trade as the Northwest Coast Seals, sometimes also called Victorias. This herd be- *Isaac Liebes, p. 455.* longs solely to the Pribilof Islands, and is easily distinguishable by the fur from the fur-seals of the other northern rookeries, and still easier from those of the south. All expert seal-skin assorters are able to tell one from the other of either of these different herds. Each has its own characteristics and values.

I have found that the Russian skins were flat and smaller, and somewhat different in color in the under wool than those caught on the American side. In my opinion *Sidney Liebes, p. 516.* they are of an inferior quality. The Alaska skins are larger and the hair is much finer. The color of the under wool is also different. I have no difficulty in distinguishing one skin from the other. I am of the opinion that they belong to an entirely separate and distinct herd.

I can easily distinguish the Copper Island fur-seal skin in its undressed state from that of the Alaskan and north-west coast skins. They are of an entirely distinct and separate herd, while those of the north-west coast and Pribilof Islands are of the same variety.

The skins belonging to these several catches are catalogued separately, sold separately, and are of different values, and necessarily, therefore, bring different prices in the market.

The differences between these several classes of skins are so marked as to enable any person skilled in the business to readily distinguish one from the other. * * *

The differences between the Copper Island catch and the Alaska catch are marked and enable anyone experienced in handling skins to distinguish the one from the other. The Copper Island skins show that the animal is narrower in the neck and at the tail than the Alaska seal and the fur is shorter, particularly under the flippers, and the hair has a yellower tinge than have the hairs of the Alaska seals, so that before the skins are dressed the two may be readily distinguished from each other, and while deponent has made no such attempt he believes that it would be reasonable to say that if 1,000 Copper Island skins were mingled among 99,000 Alaska skins it would be possible for anyone skilled in the business to extract 950 of the 1,000 Copper Island skins and to separate them from the 99,050 of the Alaska catch, and *vice versa*. Both the Copper Island skins and the Alaska skins are the skins of male seals almost exclusively, although occasionally female skins are found among the Copper Island catch and less often among the Alaska catch.

The seals of the Commander Islands appeared to me slightly different from the Pribilof fur-seals. They are grayer in color, and of a slighter build throughout the body. The bulls have not such heavy manes, or fur capes, the hair on the shoulders being much shorter and not nearly so thick. The younger seals have longer and more slender necks apparently. I noticed this difference between the seals at once.

During the season of 1891 I was the agent of the Russian Seal-skin Company, of St. Petersburg; that I was on Bering Island at the time that Sir George Baden-Powell and Dr. George M. Dawson, the British representatives of the Bering Sea Joint Commission, were upon said island investigating the Russian sealeries upon the Komandorski Islands, that I was present at an examination, which said Commissioners held, of Sniegeroff, the Chief of the natives on Bering Island, who, prior to the cession of the Pribilof Islands by Russia to the United States, had resided on St. Paul, one of said Pribilof Islands, and that since that time had been a resident on said Bering Island, and during the latter part of said residence had occupied the position of native chief and as such superintended the taking and killing of fur-seals on said Bering Island; that during said examination the Commissioners, through an interpreter, asked said Sniegeroff if there was any difference between the seals found on the Pribilof Islands and

the seals found on the Komandorski Island; that said Sniegeroff at once replied that there was difference and on further questioning stated that such difference consisted in the fact that the Komandorski Island seals were a slimmer animal in the neck and flank than the Pribilof Island seals, and further that both the hair and fur of the Komandorski Island seal were longer than the Pribilof Island seal; said Commissioners asked said Sniegeroff the further question, whether he believed that the Pribilof herd and Komandorski herd ever mingled, and he replied that he did not.

I was formerly, as I have stated, interested in the Commander seal islands, as well as those of Alaska. The two herds are separate and distinct, the fur being of different quality and appearance. The two classes of skins have always been held at different values in the London market, the Alaskas bringing invariably a higher price than the Siberias of the same weight and size of skins. I think each herd keeps upon its own feeding grounds along the respective coasts they inhabit. *Gustave Niebaum, p. 78.*

While the Alaska and Northwest coast skins are taken from the same species or herd of seals, I am convinced that the Copper skins are taken from seals of a different herd. I have noticed the difference in the skins, both in their raw state and during the processes of dressing. The hair of the Copper skin is shorter, thinner, and generally of a somewhat darker color than that of the Alaska or Northwest coast skins, and in most cases the difference in shape is sufficiently marked to enable me to distinguish them by that means alone. *John J. Phelan, p. 519.*

The difference between the Copper and the other skins is still more marked during the processes of dressing. It is very much more difficult to unhair a Copper skin. Furthermore, the pelts of the copper skins are less porous than those of the other skins. While preparing skins for dressing it is necessary to "work" them and open the pores in order to "leather" them, and it is during this process that I have noticed the fact that Copper skins are much less porous than the others. The pelt being harder and stiffer and the hair more brittle we can hardly ever unhair a Copper skin as satisfactorily as we can the other skins.

That the three classes of skins above mentioned are easily distinguishable from each other by any person skilled in the business or accustomed to handling skins in the raw state. That deponent has personally handled the samples of the skins dealt in by this firm, and would himself have no difficulty in distinguishing the skins of the Copper Island catch from the skins of the Alaska and Northwest catch, by reason of the fact that in the raw state the Copper Island skins have a lighter color and the fur is rather shorter in pile and of an inferior quality. The skins of each of the three classes have different values and command prices in the market. *Henry Poland, p. 571.*

The skins of the Russian side are much coarser than those of the American side, and the fur is a little darker; more of a cherry color. The top hair is darker. *Chas. W. Price, p. 521.* The seals on the Russian side are a distinct and different herd from those on the American side and are not as valuable.

The differences between the several classes of skins are very marked, and enable anybody who is skilled in the business or accustomed to handling of fur-seal skins

Geo. Rice, p. 573.

to distinguish the skins of one class from the skins which belong to either of the other two classes and these differences are evidenced by the fact that the skins obtain different prices in the market. * * *

The difference between the Copper Island catch and the Northwest and Alaska catches, which two last-mentioned classes of skins of the fur-seal apparently belong to the same family, are such as to enable any person skilled in the business to distinguish the Coppers from the Northwest and Alaska skins, or what I may call the Bering Sea seal-skins, but the manner in which the skins are distinguished is difficult to describe to any person not accustomed to handling skins. The difference again between the Alaskas and Northwest catches, although, as deponent has said, they are of the same general family, is yet very marked by reason of the difference of the color of the hair, the length of the wool, which is, of course, perceptible mainly upon examination of the pelts and of the fact that the female skins show the marks of the breast.

The differences between the three classes of skins above mentioned are so marked that the skins belonging to the three catches have always, since deponent had any knowledge of the business, commanded, and do now command, different prices in the markets. For instance, the Alaska skins of the last year's catch fetched about 125s. per skin; the Copper skins of the last year's catch fetched 68s. 6d. per skin, and the Northwest skins of the last year's catch fetched about 55s. per skin.

Among the skins classed as the Northwest catch there have for the last few years been included a considerable number of skins which deponent says he thinks were formerly called Japanese skins, which are distinguished from the remaining Northwest and Alaska skins by reason of the different color of the skins in the raw state. This difference in color is so distinct as to be practically unmistakable.

I have handled many sealskins coming from both north and south of this port, and can readily distinguish the difference between them. Those from the southern

Leon Stoss, p. 92.

islands are from a different species from the Alaskans, and both differ from the Asiatic skins. The skins from the warmer latitudes are greatly inferior. The fur is short and thin and of a reddish brown color. They can be detected at once. It is not as easy to distinguish the Alaska from the Asiatic skins, but experts in handling them, nevertheless, do it with meriting accuracy.

The skins of these several catches are readily distinguished from each other, and the skins of the different sexes

Wm. C. B. Stamp, p. 575.

may be as readily distinguished from each other as the skins of the different sexes of any other animal. * * *

The differences between the Copper and Alaska skins are difficult to describe so that they can be understood by any person who has no practical knowledge of furs, but to any one skilled in the business there are apparent differences in color between the Copper and Alaska skins, and a difference in the length and qualities of the hairs which compose the

fur, and there are also apparent slight differences in the shape of the skins.

The differences between the skins of the three catches are so marked that they have always been expressed in the different prices obtained for the skins. I have attended the sales for many years, and am able to make this statement from my own knowledge. The average prices obtained at the sales of the last year's catch for instance were as follows: For the Alaska skins, 125s. per skin; for the Copper skins, 68s. per skin; and for the Northwest skins, 53s. per skin.

The skins of the Alaska and Copper catches are readily distinguished from each other and command different prices in market, and I should have no difficulty and would *Emil Teichmann, p. 580.* undertake from my knowledge of the various skins to separate Copper skins from Alaska skins should they ever be found mingled together, as, however, they are not. The Alaska and Copper skins are distinguishable from each other partly by means of the different color. The Copper Island skins generally have a darker top hair and are more yellow on the cheeks than the Alaska skins. Perhaps a surer means of distinguishing the two is the difference in shape. The Copper Island skins are much narrower at the head than the Alaska skins, and this difference is very marked. In our warehouses we have a different set of frames for the sizing out of the Copper skins from those we use for the Alaska skins. Another difference quite as important as the shape is that the fur upon Copper Island skins is considerably shorter on the flanks and toward the tail than is the fur of the Alaska skins. All of these differences are so marked, as I have before stated, as to enable any expert, or one familiar with the handling of skins, to readily distinguish Copper from Alaska skins, or *vice versa*, but it is true in the case of very young animals the differences are much less marked than in the case of the adult animal. We receive practically no skins of very young animals from Alaska, but we do receive at times a certain number of the skins of the young animals from Copper. All the skins of both the Copper and Alaska catches are the skins of the male animals.

The skins of the Northwest catch are in turn readily distinguishable from the skins of the Alaska as well as the Copper catch. The differences which I have enumerated between the Copper and Alaska skins are accentuated in distinguishing the skins of the Northwest catch from the skins of the Copper catches, and we use a separate set of frames or patterns in our business for the Northwest skins from what we use for the Copper or Alaska skins. Among what are classed by us as Northwest skins are included what are sometimes called Japanese skins, which are the skins of seals killed on the northern Asiatic coasts. These skins come upon the market generally by way of Japan, but sometimes by way of San Francisco or Victoria.

The skins of each of the several catches are readily distinguishable from each other by any person at all experienced in the handling of seal skins; and the skins *Henry Treadwell, p. 525.* of the Northwest, Alaska, or Copper catch are none of them found, except under those titles; that is to say, that skins of the "Copper" catch are not found among the "Alaska" seal-skins, nor those of the Northwest catch among the Alaska or Copper seal-skins. The skins of the three catches are so readily distinguishable from each other that deponent says he would be able, on the examination of the skins as they are taken from the barrels in which they are

packed in salt and received by him, to detect at once in a barrel of Alaska skins the skins of either the Copper or the Northwest catch; or in a barrel of the Northwest catch the skins of either the Alaska or the Copper catch, or in a barrel of the Copper catch the skins of either the Alaska or Northwest catch. The skins of the Alaska and Copper catches are readily distinguishable from each other, although male skins; and the skins of the Northwest catch are also readily distinguishable from both the Copper and Alaska by the fact that they are almost all females, and all have marks of bullets, buckshot, or spears, showing that they have been killed at sea, although the Northwest catch belong to the Pribilof Island herd. * * *

It is equally true that the skins of all the other catches which we had in prior years were readily distinguishable from each other. I have not seen the seals in their native rookeries, and can not speak as to the distinguishing traits of the live animal, but in the trade and in the experience of our firm we have always been able to distinguish readily the skins coming from one locality from the skins coming from another. I remember upon one occasion my firm received a consignment of skins from London which bore no marks familiar to us and which skins had not been described to us, and that my brother, who was then at the head of the business, and who is now dead, said, after inspecting the said skins, that they reminded him very much of what were formerly called "south latitude skins," and particularly of some skins which he had twenty odd years before from Santa Barbara, in California; and upon inquiry from the Messrs. Lampson and Company we were informed by them that the said skins were the skins of seals killed at Santa Barbara.

And the skins of the two herds of the Pribilof and Commander islands may be so readily distinguished from each other that an expert would have no difficulty in at once throwing out from the catch taken on the Commander Islands any skins of the Pribilof herd, and *vice versa*; and deponent understands from persons who have had long experience in the examination of the living animals that the two herds so differ as to belong to separate species of the same genus, and can readily be distinguished from each other. * * *

And the skins of these three catches, as deponent has before stated, are readily distinguishable from each other and are well recognized in the trade as distinguishable from each other and the differences between are clearly evinced in the different prices which have always been obtained for the seal-skins of the three catches; for instance, the skins of the Alaska catch now command and have always commanded by 20 or 30 per cent a better price than skins of the same size from the Copper catch; and this difference is also recognized by the Russian Government, who lease the privilege of catching upon the Commander Islands upon terms 25 per cent less than the terms exacted by the United States for the lease catch upon the Pribilof Islands.

The Russian seal is a smaller seal, and the fur is not as close as the fur of the Alaska seal, nor as good quality. They are an entirely different herd from those on the American side, and their skins have peculiar characteristics by which it is not difficult to separate them.

Maurice Windmiller, p. 550.

DOES NOT MINGLE WITH RUSSIAN HERD.

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The Commander Islands herd is evidently distinct and separate from the Pribilof Islands herd. Its home is the Commander group of islands on the western side of Bering Sea, and its line of migration is westward and southward along the Asiatic coast. To suppose that the two herds mingle and that the same animal may at one time be a member of one herd and at another time of the other, is contrary to what is known of the habits of migrating animals in general.

The fur-seals of the Pribilof Islands do not mix with those of the Commander and Kurile islands at any time of the year. In summer the two herds remain entirely distinct, separated by a water interval of several hundred miles; and in their winter migrations those from the Pribilof Islands follow the American coast in a southeasterly direction, while those from the Commander and Kurile islands follow the Siberian and Japan coasts in a southwesterly direction, the two herds being separated in winter by a water interval of several thousand miles. This regularity in the movements of the different herds is in obedience to the well-known law that *migratory animals follow definite routes in migration and return year after year to the same places to breed*. Were it not for this law there would be no such thing as stability of species, for interbreeding and existence under diverse physiographic conditions would destroy all specific characters.

I think the Commander Islands seals are a different body of seals altogether from those of the Pribilofs, and that the two herds never mingle. I think the Commander Islands herd goes to the southward and westward towards the Japanese coast.

I am told and believe that the Robben Island seals can be distinguished by experts from those on the Commander Islands, and am satisfied that they do not mingle with them, and are a separate and distinct herd. They remain on and about the islands in large numbers until late in the fall. I have been accustomed to leave in October or early in November, and seals were always plentiful at that time. I am of opinion that they do not migrate to any great distance from the island during the winter. A few hundred young pups are caught every winter by the Japanese in nets off the north end of Yesso Island.

I have made 32 voyages between the Aleutian Archipelago and the Commander Islands, but have never seen seals between about longitude 170 west and 165 east. I am satisfied the Alaska seals do not mix with those of Siberia. I have seen seals in winter and known of their being caught upon the Asiatic side as far south as 36° north latitude.

No vessel, to my knowledge, has ever met a band of seals in midocean in the North Pacific. I have crossed said waters on three different occasions, and each time kept a close lookout for them.

The Pribilof herd does not mingle with the herd located on the Commander Islands. This I know from the fact that the herd goes eastward after entering the Pacific Ocean, and from questioning natives and half breeds, who had resided in Kamchatka as employes of the Russian Fur Company, I learned that the Commander herd on leaving their islands go southwestward into the Okhotsk Sea and the waters to the southward of it and winter there. This fact was further verified by whalers who find them there in the early spring.

Deponent is further of the opinion, from his long observation and handling of the skins of the several catches, that the skins of the Alaska and Copper catches are readily distinguishable from each other, and that the herds from which such skins are obtained do not in fact intermingle with each other, because the skins classified under the head of Copper catch are not found among the consignments of skins received from the Alaska catch, and *vice versa*.

In the months of October and November, after a blow from the northeast, a few scattering gray pups are occasionally seen in groups of two and three. They pass from Bering Sea into the Pacific, and do not linger about this region. I have killed a few of these pups in the passes of Atka and Amliia islands for food, and did not find them difficult to approach in bidarka. I killed ten in one season, about the year 1868, using a spear, and never lost one struck, although they do not float long after being killed, usually less than five minutes. We find but few nowadays, and I think there are less fur-seals than there were formerly. I do not know the reason for it. I have never seen an old bull or a full-grown fur-seal about these islands. I do not know through what passes the seal herds move to and from the Bering Sea, nor the time. Schooners have occasionally been seen about this region in the spring, but they never stayed long, and I do not think they got any skins.

I think the fur-seal herds of the Commander and Pribilof islands are separate bodies of the fur-seal species, whose numbers do not mingle with each other. In the latter part of September of 1867, in the brig *Kentucky*, making passage between Petropaulowski and Kadiak, I observed the Commander Islands seal herd on its way from the rookeries. They moved in a compact mass or school, after the manner of herring, and were making a westerly course towards the Kurile Islands.

Q. In your opinion do the seals on the Russian side intermingle with those on the Pacific side or are they a separate herd?—A. No, sir; they do not come over this way. They are not a different breed, but they keep over by themselves. At least I don't think so. They follow their own stream along there. There is so much water there where there are seals, and so much where there are not. They are by themselves.

Q. In your opinion, do the seals on the Russian side intermingle with those on the Pacific side or are they a separate herd?—A. They do not intermingle at all.

Q. In your opinion, do the seals on the Russian side intermingle with those on the Pacific side or are they a separate herd?—A. I think they are a separate herd. *Frank Johnson, p. 441.*

Have seen only three fur-seals in this region in twenty years; saw them in May, 1890, traveling along the north side of Attu Island, about 5 miles off shore, and making a northwesterly course. They were young males, I think. Fur seals do not regularly visit these islands now, but about twenty-five or thirty years ago I used to see small squads of large seals during the month of June feeding and sleeping about the kelp patches off the eastern shores of Attu and Agattu Islands. They came from the southward and traveled in a northwesterly direction. Never saw any fur-seals east of the Semichi Islands, and do not think those of the Commander Islands herd go farther to the eastward than that. They decreased in numbers gradually, and during the last twenty years have only seen the three above mentioned. Have never seen a nursing or mother cow or a black or gray pup in this region, and do not think they ever visit it.

Q. In your opinion do the seals on the Russian side intermingle with those on the Pacific side or are they a separate herd?—A. They are a different herd of seals altogether. *Alex. McLean, p. 438.*

Q. In your opinion do the seals on the Russian side intermingle with those on the Pacific side?—A. No, sir; I do not think so. They are different seals in my opinion. *Daniel McLean, p. 444.*

The seals of the Commander Islands are of a different variety from those of the Pribilofs. Their fur is not so thick and bright and is of a somewhat inferior quality. *Jno. Malowansky, p. 198.* They form a distinct herd from that of St. Paul and St. George, and in my opinion the two do not intermingle.

I was present as interpreter when the English commissioners were taking testimony on Bering Island. They examined, among others, when I was present, Jefim Snigeroff, chief on Bering Island, he being the person selected by them there from which to procure the testimony relating to the habits and killing of seals. This Snigeroff testified that he had lived on the Pribilof Islands for many years, and knew the distinctive characteristics of both herds (Commander and Pribilof) and their habits, and that he removed from thence to Bering Island. He pointed out that the two herds have several different characteristics, and stated that in his belief they do not intermingle.

There are two great herds or armies of fur-seals that frequent the North Pacific Ocean and Bering Sea. They are quite distinct from each other and do not intermingle. *Morris Moss, p. 341.* The one army appears off the coast of California in the latter part of December and gradually work their way northward, and are joined by others coming apparently from mid-ocean. * * * The other army proceeds along the Japanese coast, and head for the Commander and Robben islands. I believe the seals always return to the place of their birth.

I do not think the fur-seal herds of the Commander and Pribilof islands ever get close enough to each other in these latitudes to mingle.
Arthur Newnan, p. 210.

I am satisfied that the seal herds respectively upon the Pribilof group, the Commander Islands, and Robben Bank have each their own distinctive feeding grounds and peculiar rounds of migration. No doubt they are of the same species, but there is a marked difference in the fur of the skins from the respective places, which can be distinguished by experts.
Gustave Niebaum, p. 204.

I hunt about Attu, Agattu, and the Semichi islands. Have never hunted or killed a fur-seal. Fur-seals do not regularly frequent these regions, and I have seen none but a few scattering ones in twenty years. Thirty years ago, when the Russians controlled these islands, I used to see a few medium-sized fur-seals, one or two at a time in the summer, generally in June, traveling to the northwest, and bound, I think, for the Commander Islands. The farthest east I have ever observed them was about 30 miles east of the Semichi Islands; do not think those going to the Commander Islands ever go farther east than that. Those most seen in former times were generally feeding and sleeping about the kelp patches between Attu and Agattu and the Semichi islands, where the mackerel abounds. They decreased in numbers constantly, and now are only seen on very rare occasions. Have seen but half a dozen in the last twenty years; they were large seals, bulls, I judged from their size, traveling to the northwest, about 30 miles east of the Semichi Islands. This was in May, 1888.

Have never seen any pups, black or gray, or nursing female fur-seals in this region, and do not think they ever visit it. * * *

Do not know where the old bull fur-seals spend the winter, nor what route the fur-seal herds take to and from the Commander and Pribilof islands, nor at what times the herds pass to and fro. Am quite sure the herds do not come near enough together to mingle in these regions. Have never known of fur-seals being seen between Amchitka and a point 30 miles east of the Semichi Islands.

I never saw but one fur-seal in the water. It was a young male, which was killed in this bay in September of 1884.
Filaret Prokopief, p. 216.

C. A. Williams, p. 537. There is no intermingling of the herds.

The fur-seal is only rarely seen about this region, scattering ones being seen occasionally during the months of September, October, and November, traveling from the northward to the southward, through the passes between Atka and Amliia islands. Those seen are always gray pups, and usually appear after a blow from the northeast. The most I ever saw in any one year was about a dozen, but never more than two or three at a time. I have met them in the passes while hunting in a bidarka. I have never known them to rest on the shores or on patches of floating kelp in this region. I have never seen large bulls or full-grown fur-seals in this region.
Pud Zaotchnoi, p. 213.

CLASSIFICATION.

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The seals which make their home upon the Pribilof Islands are readily thrown into five general groups. (1) The breeding males or bulls. (2) The breeding females. *J. Stanley-Brown, p. 13.* (3) The immature males or bachelor seals. (4) Virgin females; and (5) The pups. Each has its own time of arrival, each its separate career on the islands, and each its season for the annual expedition into the Pacific Ocean.

I have dissected the brains, eyes, and hearts, and have examined the lungs, liver, and internal viscera generally of such seal as are to be found on the killing grounds. *W. S. Hereford, p. 35.* Have also examined some of the stomachs of the pups on the rookeries in the fall.

The fur-seal has unusually thin bones covering the brain. The brain is well shaped, the same almost as a human brain, quite large, and if one could judge from external appearances the animal possessing such a brain should be unusually intelligent. The eye during life is large, dark, sympathetic, and intelligent-looking, but, alas for appearances! On land they may be occasionally suspicious, especially should their other senses be helped out by their olfactories, for they have the keenest scent, but in the water they display the greatest curiosity and confidence in passing objects. They will catch up and follow a boat, and in fact I have seen them play around the "killer-whale" totally oblivious of the fact that this "killer" is their bitter enemy. I have at the same time seen the sea-lion, which is generally considered more stupid, though braver, rush into shore and land on the rocks under similar circumstances, apparently preparing to chance death from the natives to being snapped in two and made a meal of in two mouthfuls by the "killers."

I am of the impression that the fur-seal, notwithstanding its magnificent-looking eye, has rather a short range of vision; it may be more powerful under water than out. * * *

Of the lungs, liver, heart, and testicles of the male fur-seal, which I have observed, there is nothing peculiar about them. The penis is characteristic of the class to which the fur-seal belongs. The brain, heart, liver, and kidneys make very good eating, and taste about the same as those of other animals. The meat, however, which must be entirely freed from all its blubber or fat, though quite nutritious and palatable, is somewhat soft, of a dark color, and reminds one, according to how it is cooked, of wild duck, venison, etc., only it must never be eaten rare, but always well done. On our table it generally went by the name of St. Paul or St. George mutton, respectively, and had its regular place in our bill of fare, being far more preferable to "salt horse" and canned stuffs.

The average weight and length of the different sizes and ages may be generally stated about as follows:

	Length.	Weight.
	<i>Inches.</i>	<i>Pounds.</i>
At time of birth.....	12	7
At 1 year old.....	38	39
At 2 years old.....	46	60
At 3 years old, male.....	54	90
At 3 years old, female, nearly full grown.....	54	60
At 4 years old, male.....	60	150
At 4 years old, female, full grown.....	56	80
At 5 years old, male.....	66	225
At 6 years old, male, nearly full grown.....	75	350
At full adult age, male.....	78	450

The nomenclature and technical terms of seal hunters have changed somewhat [within the past eighteen years]. We hear of "cows" instead of "clap-matches," "bulls" instead of "wigs," and "bachelors" or "holusehuekie" instead of "yearlings."

THE PUPS.

BIRTH.

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The pups are born on the rookeries, and remain with their mothers, living wholly upon their mother's milk until they can go into the sea and care for themselves.

William Brennan, p. 359.

* * * * *

They are called "black" and "gray" pups; black before they shed their first coat and gray afterwards. As they grow older the gray turns darker, except upon the neck and head; but the color of the hair does not affect the fur, which can be seen by parting it. The thickness and length of the fur determines the value of the skin.

J. Stanley Brown, p. 13. The birth of the pups is nearly synchronous with the arrival of the mothers.

The young on being born have all the appearance of pups of a Newfoundland dog with flippers. On emerging from their warm resting place into the chill air they utter a plaintive bleat not unlike that of a young lamb. The mother fondles them with many demonstrations of affection, and they begin nursing soon after birth.

The pup seal is born on the rocky shores of these islands, the mother evidently preferring a spot covered with broken lava rocks to the sand beaches. The birth takes place within two or three days after the female lands, and often within a few hours. When born the pup weighs from 4 to 5 pounds, and spends the first six weeks of its existence on land.

Chas. Bryant, p. 4.

The pup when born weighs about 4 or 5 pounds, and is covered with shiny black hair, beneath which there is no fur. When four or five months old this black hair is shed, and new hair of a brownish-gray color comes out, and the fur appears beneath it. *Geo. Comer, p. 598 (Antarctic).*

A young seal or "pup" when first born weighs from 6 to 8 pounds, is almost black in color, and is covered with a short hair, which changes to silver-gray hair when the pup learns to swim. *Saml. Falconer, p. 164.*

The place of birth is on the breeding grounds, which takes place soon after the female lands, generally within two days.

The pups are born soon after the cows arrive, and remain until October and November, and when they return, the following season, do not stay on land much of the time. *C. L. Fowler, p. 25.*

I do not know whether the mother seal has the power of voluntarily restraining and postponing the involuntary act of labor or not, but it would almost seem as if she had, as on many occasions she will have but just dragged herself ashore when she will give birth to her young. This may be a coincidence only, but when not disturbed they usually come ashore with plenty of time to make themselves comfortable. *W. S. Hereford, p. 35.*

The pups are born soon after the cows reach the rookeries. *Nicoli Krukoff, p. 133.*

The young seals, called "pups," are born in June and July upon the grounds on these islands known as "breeding rookeries." They are at birth very clumsy and helpless, possessing little ability to move about on land. *H. H. McIntyre, p. 41.*

Within a few days after landing (it may be but a few hours or even minutes, as I have seen) the female gives birth to her young, but one being brought forth each year. The reported occasional birth of twins is not verified. These little ones, "pups," as they are called, are comparatively helpless, particularly awkward in movement, and, unlike the hair seal, are unable to swim. *H. W. McIntyre, p. 136.*

And the pups are born soon after the cows land on the rookeries. When the pup is born it is utterly helpless and would drown if put into water. Those born nearest the water are often drowned in the surf when the sea is rough in stormy weather. *Anton Melovedoff, p. 144.*

The pup seals are born on the breeding rookeries on St. Paul and St. George islands during the months of June and July. *T. F. Morgan, p. 61.*

For the first six or eight weeks of its life a pup is a land animal, having a coarse hair, but no fur. This coarse hair is shed before the fur appears. *J. H. Moulton, p. 72.*

As a rule the pups are born soon after the cows reach the shore, though it occasionally happens that a cow will be two or three days on the rookery before bringing forth her young.
L. A. Noyes, p. 81.
 I think the pups are all born by July 22.

And I believe they bring forth their young almost immediately after reaching their places on the rookeries.
J. C. Redpath, p. 148.

The cow gives birth to her pup soon after arriving on the breeding rookeries.
Thomas F. Ryan, p. 174.

The young seals are born on the breeding rookeries in June and July.
Daniel Webster, p. 180.

INABILITY TO SWIM.

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The pups are born between the middle of June and the middle of July, and can not swim until they are 6 or 7 weeks old; and if born in the water they would die. I have seen the surf wash some of the young pups, into the sea, and they drowned in a very short time.
K. Artomanoff, p. 100.

When the pups are born they can not swim and the mothers take them to the water's edge, where one can see them sands paddling and struggling in the surf. The noise made by the mothers crying for their pups, and the bleating of the pups in answer, make a constant roar.
William Brennan, p. 359.

The pup during the first months of its life is not amphibious. It does not even use its flippers as the maturer seals.
J. Stanley Brown, p. 16. * * *

The pups are afraid of the water; they have to learn to swim by repeated effort, and even when able to maintain themselves in the quiet waters will rush in frantic and ludicrous haste away from an approaching wave. I have taken pups two or three weeks old and carried them out into still water, and they awkwardly but in terror rapidly floundered toward the shore, although they could have escaped me by going in the other direction. In three trials, paddling in all about 60 feet, the pups became so exhausted that they would have been drowned had I not rescued them. If the pups when collected in groups or pods near the shore were to be overtaken by even a moderate surf they would be drowned, and such accidents to them do occur on the island before they have entirely mastered the art of swimming.

The pups are born on the rookeries and are unable to swim till six or eight weeks of age. If one gets washed off the rocks before that time it is drowned. A pup born in the water or on the kelp would certainly perish.
Jas. W. Budington, p. 595. (Antarctic.)

A pup is at least a month old before it learns to swim. Before that it not only can not swim, but is afraid of the water.
S. N. Buynitsky, p. 21.

The young seals at birth are very helpless. They can not swim and seem to have no desire to learn. When they are six or seven weeks old, if the beach on which they lie slopes down very gradually to the water and the waves roll in on it, they will voluntarily commence to paddle about and finally get afloat without particular urging from the older seals, but if the rocks are abrupt at the water's edge the old ones must push them over into the sea or seize them by the neck, as a mother cat handles her kitten, and drop them into the water before they will learn to swim. In such cases the "pups" often struggle to get back upon land. *Harry N. Clark, p. 160.*

A pup does not go into the water until he is three or four months old, and then he works in gradually from the puddles into the surf, and I have seen "elap matches" in stormy weather pick up their pups in their mouths and carry them out of reach of the waves. *Geo. Comer, p. 598 (Ant-arctic.)*

A pup when first born can not sustain itself in the water and would unquestionably perish. *W. H. Dall, p. 23.*

Once, in the month of June, I caught a seal that had a pup in it. I carefully cut the pup out of its mother and placed it in the water and it drowned. I have often cut pups out of the mother seal and tried to rear them, but in two or three days it would sicken and die. *Ellabush, p. 385.*

When first born a pup can not swim, and does not learn so to do until it is six or eight weeks of age. It is therefore utterly impossible for a pup to be born in the water and live. I have noticed that when a pup of this age is put in the water it seemed to have no idea of the use of its flippers, and was very much terrified. A pup is certainly for the first six or eight weeks of its life a land animal, and is in no sense amphibious. *Saml. Falconer, p. 164.*

The pups are born soon after the arrival of the cows, and they are helpless and can not swim, and they would drown if put into water. The pups do not learn to swim until they are six or eight weeks old, and after learning they seem to prefer to be on the land. *Jno. Fratis, p. 108.*

A pup seal until it is six weeks or two months old never goes into the water, being evidently afraid to do so, and it is only after this age that it begins by degrees to become acquainted with the sea. I am of the opinion if a pup got into the water that it would be drowned and therefore would perish if born in the water. For the first six or eight weeks of its life a pup is a land animal and in no way amphibious. *H. A. Glidden, p. 110.*

A new-born pup seal is unable to swim, and is afraid of the water. I have seen a cow seal push her pup from a rock into the water, where it floundered about in a helpless manner until the mother would go in, *Louis Kimmel, p. 174.*

take it in her mouth as a cat carries kittens, and bring it again ashore, only to again push it off the rock into the water. My observation has been that a pup is generally about two months old before it can swim.

The pups are helpless when born, and they can not swim; and they would drown if put into water, and I have seen
Nicoli Krukoff, p. 133. them drown when swept off by the surf in bad weather.

The pups when first born can not swim, and will drown if they are put into water.
Aggei Kushen, p. 129. I have seen many pups drowned when washed off the edge of the rookery by the surf. They do not go into the water until they are six or eight weeks old, and then they will keep in shallow water and close to the shore for several days more.

They seem to like to stay on land until late in the season.

And if born in the water, or swept from the shore soon after the birth, as I have several times witnessed, by the outgoing surf of heavy seas, perish from inability to swim. At this time they are simply land animals, with less aquatic instinct and less ability to sustain themselves in water than newly-hatched ducklings.
H. H. McIntyre, p. 41.

The pups, when born, can not swim or help themselves in any way, and they are entirely dependent on the cows for sustenance. They are 6 or 8 weeks old before they can swim, and were they put into the water when born they would perish, for they are not then amphibious.
Simeon Melovidov, p. 146.

When first born a pup can only live upon land, is not amphibious, and is unable to swim. If it is washed off into the sea by the surf it is drowned, as I have often seen.
T. F. Morgan, p. 61.

A pup is also unable to swim, and I have seen pups thrown in the water when their heads would immediately go under and they would inevitably drown if not rescued.
J. H. Moulton, p. 72.

The pup when born is as helpless as a newborn lamb, and as incapable of living upon the water. It is not until six or eight weeks old that the pup of the fur-seal can swim. If, as is often the case, a pup should be swept from the rookery into the surf before it had learned to swim, it would be drowned. Every season young pups in more or less numbers are thus drowned.
S. R. Nettleton, p. 75.

When the pup is born it is utterly helpless and dependent; it is not amphibious, and would drown if put into water. I have often watched the pups near the water's edge when in stormy weather the surf carried them off, and in every instance they drowned as soon as they went into deep water.
L. A. Noyes, p. 82.

They are not amphibious when born, nor can they swim for several weeks thereafter, and were they put into the water would perish beyond a doubt, as has been well established by the drowning of pups caught by the surf in stormy weather. *J. C. Redpath, p. 148.*

A pup does not swim when first born, and is generally two months old before it goes into the water. *T. F. Ryan, p. 175.*

The pups are not able to go with their mothers and drown, if by mischance, they are thrown into the sea before they are three or four weeks old. They stay with the bulls on the breeding grounds until about six or seven week old before learning to swim. *C. M. Scammon, p. 475.*

From my observations I am convinced a pup must be six or eight weeks old before it can swim, and that a female generally teaches her own pup the use of his flippers. Birth in the water would mean immediate death to the pup, both because of the fact last stated and from the further fact that for a day or two after birth a pup is entirely helpless. In my judgment, then, a seal pup for the first few weeks of its life is a land quadruped and in no sense an amphibian. I believe that a seal is naturally a land animal, as all copulation, birth, and nursing takes place on shore, and the only reason I think the seals seek the water is because they are compelled so to do in order to obtain food. This is verified from the fact that the seals remain on land as long as possible until the need of food and severity of the weather compel them to take to the sea. *W. B. Taylor, p. 176.*

The head constitutes the greater part of this animal at this time [birth], and they are clumsy and awkward in all their movements, and if swept into the water by accident or otherwise would perish from inability to swim—a fact that I have often observed, and one which is well known to all who have paid any attention to the subject. Practically they remain in this helpless condition, though taking on fat rapidly, until they are from 6 to 7 weeks old, when they commence to go into the shallow water, and, after repeated trials, learn to swim; but even then they spend most of their time on land until they leave the islands late in November. During the first few weeks after their birth they are not amphibious, and land is a necessity to their existence. *Dan'l. Webster, p. 180.*

A young seal does not take to the water naturally. He has to be taught to swim. The hair-seal will pup anywhere and the pups will go right into the water, but the fur-seals are forced to go ashore to bring forth their young and forced to leave their young on land, while they go into the water to feed and bathe. *T. T. Williams, quoting Capt. Olsen, p. 505.*

AQUATIC BIRTH IMPOSSIBLE.

[See also "Birth on Kelp Beds Impossible,"]

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Never heard of a seal pup being born in the water nor on the land, but have heard they are born on some islands in Bering Sea. In the winter a few pups are driven into the bay by the storms.

Akatos, p. 237.

I have never seen a fur-seal pup of the same season's birth in the water at sea; neither have I any knowledge of any being born elsewhere than on a regular rookery.

Andrew Anderson, p. 217.

Have never known any seal pups to be born in the water nor anywhere else in Alaska outside of the Pribilof Islands.

Peter Anderson, p. 313.

We have never seen fur-seal pups about this part of the coast, and have no knowledge of any being born elsewhere than on the rookeries of the seal islands in Bering Sea.

Nicoli Apockchee et al, p. 224.

Never have known fur-seal pups to be born in the water, nor have I ever heard of pups being born in the water or anywhere else on Alaska.

Atenas-Kos, p. 237.

Chas. Avery, p. 218. I do not think that seals can be born in the water and live.

Have never known of pups being born in the water or anywhere else on the coast outside of the Pribilof Islands.

Adam Ayonkee, p. 255.

Q. Have you ever seen any seals born in the water, and is it your opinion that it is possible for them to be born in the water?—A. No, sir; they are not like sea-otter, they being born in the water. A seal is just as helpless in the water, until they are about six weeks or two months old, as a child.

Geo. Ball, p. 482.

And, further, I do not believe it possible for the female to give birth to its young in the water and have it live.

Wm. Bendt, p. 405.

I have never known any seal pups to be born in the water or on the coast anywhere, except on the Pribilof Islands.

Wilton C. Bennett, p. 356.

I have never known any pups to be born in the water or on the land.

Edward Benson, p. 277.

Never have heard of or seen any pups being born in the water or anywhere else on the coast outside of the Pribilof Islands.

Martin Benson, p. 405.

I have never known a black pup to be captured on the coast.

Henry Brown, p. 318.

Were not the seals in their organs of reproduction, as well as in all the incidents of procreation, essentially land animals, the fact that the placenta remains attached to the pup by the umbilical cord for twenty-four hours or even more after birth, would show the impossibility of aquatic birth. I have seen pups dragging the caul over the ground on the third day after birth. Even could the pup stand the buffeting of the waves it would not survive such an anchor. No pup could be born in the water and live. Doubtless the habits of the sea-otter have become confused with those of the fur-seal. *J. Stanley Brown, p. 15.*

Cow seals can not give birth to their young in the water or on the kelp and have them live. I have never seen nor known of any pups along the coast that were born in the same year, and I have never known any cow seals to be caught along the coast that had given birth to their young, and in whose breast there was milk, and it is very seldom that we catch a full-grown cow that does not have a pup in her. *Peter Brown, p. 378.*

During this period the pup is in no sense an amphibian, being as helpless in the water as a young chicken; it can not swim, and when thrown in the water would inevitably drown if not rescued by its mother or by man. Therefore, if a pup was born in the water it would certainly perish. I have seen cases where a mother, being taken by the pains of parturition, sought the nearest beach rather than a rookery, not having time to reach the latter before the birth of her pup. If pups could be born in the water such cases as the last stated would not occur. *Chas. Bryant, p. 5.*

If a pup should be born in the water it would unquestionably be drowned; but I believe that it is an absolute impossibility for successful birth to take place in the water, for the reason that the mother would die of exhaustion before or while bringing forth her young. *S. N. Buynitsky, p. 21.*

Once I killed a cow in milk, the only one of the kind I have ever known being caught on the coast. *Landis Callapa, p. 379.*

Have never known any seal pup born in the water, nor on the coast anywhere outside of the Pribilof Islands. *Chas. Campbell, p. 222.*

We have never seen fur-seal pups of the same season's birth in the water at sea, and do not believe it possible for for them to be successfully reared except on a rookery. *Vassili Chichinoff et al., p. 219.*

Have never known or heard of pup seals being born in the water, nor on the land anywhere in Alaska. *S. Chinkoo-tin, p. 257.*

I never knew of fur-seal pups being born anywhere except on a rookery, and do not believe they can be successfully raised under other conditions. *Julius Christiansen, p. 219.*

Peter Church, p. 257. Never have known any pups to be born in the water.

Have never known or heard of any fur-seal pups being born in the water or on the land in any part of Alaska or British Columbia.
Wm. Clark, p. 293.

Q. Have you ever seen any seals born in the water, and is it your opinion that it is possible for them to be born in the water?—**A.** No, sir; they would drown if born in the water.
Danl. Claussen, p. 412.

Never have known or heard of pups being born in the water or elsewhere outside the Pribilof Islands.
Jno. C. Clement, p. 258.

A pup born in the water or on a bed of kelp would certainly be drowned, and during all my experience I never saw a black pup seal on kelp or in the water.
Geo. Comer, p. 590 (Ant-arctic).

From my knowledge of natural history and from my observations of seal life I am of the opinion that it would be impossible for the young seals to be brought forth and kept alive in the water. When it is the habit of an animal to give birth to its young upon the land it is contrary to biologic teaching and common sense to suppose they could successfully bring them forth in the water.
W. H. Dall, p. 23.

I never saw a black pup on the coast, and this year I have seen but very few yearlings.
Jeff. Davis, p. 384.

I have never known of a pup seal being born in the water or on the land anywhere in Alaska outside of the Pribilof Islands.
Hooniah Dick, p. 258.

Have never known any pups to be born in the water, nor on the land on the coast of Alaska anywhere outside of the Pribilof Islands.
Geo. Dishow, p. 323.

I have never known of any fur-seal pups being born in the water or on the land in British Columbia or Alaska, but have heard they are born on the Pribilof Islands. The Indians have always reported to me when they returned from hunting that the seal had all gone north to have their young.
Wm. Duncan, p. 279.

Have never known any pup seal to be born in the water or anywhere else in this part of Alaska.
Echon, p. 280.

I have never heard of seal pups being born in the water.
Chief Frank, p. 280.

Q. Have you ever seen any seals born in the water?—**A.** No, sir.
Q. In your opinion, is it possible for them to be born in the water?—**A.** No, sir; it is not possible.
Luther T. Franklin, p. 425.

Q. Have you ever seen any seals born in the water, and is it your opinion that it is possible for them to be born in the water?—A. I do not think it is possible for them to be born in water; no, sir. *Edward W. Funcke, p. 428.*

Nor have I ever heard of any pup seal being born in the water or anywhere else in Alaska, and had they ever been born in the water or on the islands or rocks of Alaska some of my tribe would have known it and it would have been reported to me. *Nicoli Gadownen, p. 250.*

Have never known or heard of pups being born in the water or anywhere else on the coast outside of the Pribilof Islands. *Chad. George, p. 366.*

I have never known of pups being born in the water or on the land anywhere around Alaska. *Chas. Gibson, p. 281.*

I have never heard of nor known of seals being born in the water. *Thos. Gibson, p. 432.*

Never have heard of any pup seals being born in the water. *Gonastut, p. 238.*

Have never known any pups to be born in the water or on the land around the coast of Alaska. *Jas. Gondownen, p. 259.*

I have never seen a mother seal or a black pup in this region. *Kassian Gorloi, p. 213.*

Have never heard of pups being born in the water or anywhere else on the coast outside of the Pribilof Islands. *Jas. Griffin, p. 433.*

Q. In your opinion, are any of the pups born in the water, or anywhere outside of the seal islands?—A. It has never come under my observation. I have never seen a seal on shore. I have never seen the seal islands yet; that is, St. George and St. Paul, I have never seen. I have seen the Copper Islands, on the Russian side. *Chas. G. Hagman, p. 435.*

Have never known any pups to be born in the water or on the land anywhere in Alaska. *Henry Haldane, p. 281.*

Have never known of any pups to be born in the water or on the land outside of the Pribilof Islands. *Martin Hannon, p. 445.*

Q. In your opinion, are any of the pups born in the water or anywhere else outside of the sea islands?—A. No, sir; I don't think it. *H. Harmsen, p. 442.*

Nor have I ever heard of pups being born in the water, or on the land in any part of Alaska, except on the Pribilof Islands in Bering Sea. *Sam Hayikahtla, p. 239.*

And I have no reason to believe that the pups are born in the water or that they can be saved in the water if accidentally born there.
M. A. Healey, p. 29.

Q. Have you ever seen any seals born in the water, and is it your opinion that it is possible for them to be born in the water?—A. I think it impossible for seals to be born in the water.
Wm. Henson, p. 484.

Q. Have you ever seen any seals born in the water, and is it your opinion that it is possible for them to be born in the water?—A. No, sir; I have never seen any born in the water, and I think it is impossible for them to be born in the water.
Andrew J. Hoffman, p. 447.

Have never known a pup to be born in the water or anywhere else on the coast of Alaska.
E. Hofstad, p. 260.

I have never known any seal pups to be born on the water, or on the land anywhere, except on the Pribilof Islands.
O. Holm, p. 368.

Q. In your opinion, are any of the pups born in the water?—A. I don't think so.
Gustave Isaacson, p. 440.

Q. Or anywhere else except on the seal islands?—A. I don't think so.

Q. Have you ever seen any seal pups in the Pacific that were younger than those born the year previous?—A. Down at Guadaloup Island about three months ago, I killed a cow there that had a pup that was too young to come from the Bering Sea and evidently had been born around there. That is about the only case I have seen.

Q. The pups that you see in the Pacific this year are those born last year. You don't see those born this year?—A. No, sir; I do not.

I have never killed a cow on the coast that had given birth to her pup and was giving milk, nor have I ever seen a pup born the same year.
Ishka, p. 387.

I have never known the fur-seal to give birth to their young in the water.
Victor Jacobson, p. 329.

And I have never known of anyone taking a young seal on the coast that was born that year, nor do we catch any cow seals on the coast that have given birth to their young that year.
Jas. Jamieson, p. 331.

Q. In your opinion, are any of the pups born in the water, or anywhere outside of the seal islands?—A. I think they are born on land.
Frank Johnson, p. 441.

I never have seen a pup born in the water, nor have I ever seen one born on shore outside of the Pribilof Islands.
J. Johnson, p. 331.

I have never caught a cow in milk along the coast, nor a small pup that had been born that year.
Selwisch Johnson, p. 388.

Have never known of a fur-seal pup being born in the water, or along this coast. *P. Kahiktday, p. 261.*

Never have seen or heard of pups being born in the water or on the coast outside of the Pribilof Islands. *Philip Kashevaroff, p. 262.*

Have never seen fur-seal pups born in the water or on the land in British Columbia or Alaska. *King Kaskwa, p. 295.*

I have never known seal pups to be born on the land anywhere in the water in this part of Alaska. *Jim Kasooh, p. 296.*

Have never known any pups to be born in the water or on the coast of Alaska. *Mike Kethusduck, p. 262.*

Have never heard of pups being born in the water anywhere along the coast of Alaska in my life. *Geo. Ketwooschish, p. 251.*

He has never seen baby seals in the vicinity of Barelay Sound. He never knew of one to be born in the water, and never heard of it. *Kickiana, p. 306.*

I never have known of seals being born in the water. In fact I do not believe they are, except by accident, in which cases they would certainly die, as young seals have to be taught to swim by their mother, just as children have to be taught to walk. *Jas. Kiernan, p. 450.*

It is my opinion that a pup born in the water would drown in a very few minutes. *Louis Kimmel, p. 174.*

Have never seen or heard of a fur-seal pup being born in the water. *Kinkooga, p. 240.*

Have never known of fur-seal pups being born in the water or on the coast of Alaska around here. *C. Klananec, p. 263.*

Have never known any pups to be born in the water or on the land anywhere in Alaska or British Columbia, and I don't know where they are born. *Jas. Klonacket, p. 283.*

I have never known any pups to be born in the water. *Robert Kooko, p. 296.*

Have never known any pups to be born in the water, or anywhere else on the coast, but have heard that they are born on the Pribilof Islands and nowhere else. *Jno. Kowineet, p. 264.*

I have never seen a live pup of the same season's birth in the water. *Olaf Kvam, p. 236.*

Have never heard of pups being born in the water or on the land along the coast of Alaska. *Geo. Lacheek, p. 265.*

Andrew Laing, p. 335. Fur-seals do not give birth to their young in the water, neither will the pup seal live if born in the water.

I have never known of any pup seals being caught in the water (except those in embryo) that were less than several months old, nor are any such ever offered to the trade, showing conclusively to my mind that they are not born at sea. The Indians frequently offer "black pups" for sale, but only such as they have removed from the womb of the mother seal.

Isaac Liebes, p. 454.

Thos. Lowe, p. 371. I have never killed nor saw a cow in milk, along the coast, nor one that had recently given birth to her young.

Q. Have you ever seen any seals born in the water, and is it your opinion that it is impossible for them to be born in the water?—A. Seals can not be born in the water.

Chas. Lutjens, p. 459.

Have never known pups to be born in the water or on the coast of Alaska or on the islands adjacent thereto, and I have spent 5 years on the coast of Alaska.

Jas. McKeen, p. 267.

Have never known any pups to be born in the water or elsewhere outside of the Pribiloff Islands.

Q. In your opinion, is it feasible that pups can be born in the water and live?—A. I don't believe they can be born in the water at all and live. I have heard several people express themselves differently. I think myself it is impossible. Seals have got to haul up on land to breed, and leave their pups on shore.

Alexander McLean, p. 437.

Dan'l McLean, p. 444. Q. In your opinion, are any of the pups born in the water or anywhere else out of the seal islands?—A. I have never seen any.

Q. Have you ever found any seal pups in the Pacific that were younger than those born the year previous?—A. No, sir; I have never seen any.

Pups, if born in the water, are sure to drown. It is a matter of actual observation that they must first learn to swim, and do not leave the shore until they are 4 or 5 months old. I have often seen the mother seals push their pups, when several weeks old, into the water and watched them flounder about awkwardly and scramble ashore, seeming delighted to get back.

Jno. Malowansky, p. 198.

I have never known any fur-seal pups to be born in the water or on the land around this part of Alaska or British Columbia

Chas. Martin, p. 297.

I have never seen a pup born in the water, nor have I ever heard of a pup being born on the land around this part of Alaska.

Fred. Mason, p. 284.

I have never known any pups to be born in the water or any on the land in this part of Alaska. *Amos Mill, p. 285.*

Have never known of pups being born in the water or anywhere else on the coast of Alaska outside of the Pribiloff Islands. *G. E. Miner, p. 466.*

Q. Have you ever seen any seals born in the water and is it your opinion that it is possible for them to be born in the water?—A. They are not born in the water. A seal can not swim when it is first born. *Frank Moreau, p. 468.*

I never saw nor heard of any young pups being born in the water. *Eddie Morehead, p. 467.*

If a pup was born in the water it could not possibly live and I have never heard of such a case. A further fact in this connection is that the females never come to the islands accompanied by a pup. *T. F. Morgan, p. 62.*

The statement that the fur-seal may bear and rear its young at sea as well as on land is, in my opinion, wholly gratuitous. I am unable to conceive of any ground whatever upon which to base such an assertion. When born the "pup" is an exceedingly stupid animal, with an abnormal development of head, and is apparently incapable of any exertion, except in the way of exercising its lungs. At this time it is certainly not an amphibious animal, for it does not attempt to approach the water for a month or two after its birth, and in its first natatorial efforts not only does it seem to require instruction from the older seals, but considerable practice is also necessary in the shallow waters along the beaches before it dares to venture away from the shore and among the turbulent waves of Bering Sea. In my opinion, the seal "pup" when its first introduction to the world takes place at sea must inevitably perish. Assuming that it might float on the surface of the water for a while, what is to become of it during the long voyages the mother must now make in search of nourishment for it and herself? The supposition that it would be able to accompany her on such journeys is equally as absurd as the idea of its being left unprotected on the surface of a stormy sea while awaiting her return.

There is no doubt that a seal born in the water would at once perish. *J. H. Moulton, p. 72.*

Have never known any pups to be born in the water or on the land in British Columbia or Alaska. *Smith Natch, p. 299.*

I have never seen any pup seal born in the water or on the land anywhere around British Columbia or Alaska. *Dan Nathlan, p. 287.*

I have never known any pups to be born in the water or on the land around this part of Alaska. I am a very old man, and I have never even heard of it. *Jos. Neishkaitk, p. 287.*

I have never seen a pup in the water, and do not believe they can be born in the water. If they are born in the water they would drown.
Niles Nelson, p. 470.

If for any reason the cow should not be able to reach the rookery in time to give birth to her pup and it should be born in the water, the pup would of necessity be drowned.
S. R. Nettleton, p. 75.

I have never known or heard of pups being born in the water or on the land anywhere in British Columbia, Queen Charlotte Islands, or Alaska.
Ntkla-ah, p. 288.

I do not believe mothers give birth to their young in the water.
John Olsen, p. 471.

I have never known of any fur-seal pup to be born in the water or haul up on the land anywhere in Alaska.
Peter Olson, p. 288.

I have never killed an old bull or barren cow along the coast, neither have I killed a cow in milk along the coast, or anywhere else than in the Bering Sea. Small black pups are not seen in the water along the coast.
Osly, p. 391.

I have visited the different islands in the sound, and never knew any fur-seal to be born in the water or on any of the islands in southeastern Alaska.
Kesth Riley, p. 252.

Pups are not born in water. In some cases females far advanced in pregnancy haul up on coast to give birth; but otherwise seals do not stop, except at Pribilof Islands.
W. Roberts, p. 242.

I have never seen nor heard of a fur-seal pup being born in the water, or on the rocks, on any part of the coast of Alaska, but have heard that seal are born on the Pribilof Islands.
Rondtus, p. 242.

Never knew any fur-seal pups to be born in the water or anywhere else in Alaska. Have heard that they are born on the Pribilof Islands.
Schkatatin, p. 243.

In my judgment, and from my knowledge of the habits and conditions of seal life, I would state that a pup born in the water would certainly perish, and I never saw during my experience a pup land on the island with the females when they arrived in the early summer, and I never heard of such a case.
B. F. Scribner, p. 89.

It is my belief that a pup born in the water would drown, for I am convinced from statements made me by the natives and those thoroughly familiar with seal habits that a pup for the first weeks of its life is unable to swim.
L. G. Shepard, p. 189.

- Never known of pups being born in the water or anywhere in this part of Alaska. *Jack Shucky, p. 289.*
- I have never seen a fur-seal pup in this region, and know that they are not born outside the rookeries on the seal islands in the Bering Sea. *Alexander Shyha, p. 226.*
- Never known or heard of pups being born in the water, but have heard of them being born on the Pribilof Islands. *Martin Singay, p. 268.*
- Have never known pups to be born in the water or anywhere else on the coast. *Jack Sitka, p. 269.*
- Have never known or heard of a fur-seal pup being born in the water. *Skeenong, p. 244.*
- Have never known any pups to be born in the water or on the land in British Columbia or Alaska. *Thomas Skowl, p. 300.*
- Nor have I heard of any fur-seal pup being born in the water nor on the land in or around Chatham Sound. *Yuan Slanoch, p. 253.*
- I do not believe a seal can be born in the water and live. *James Sloan, p. 478.*
- Have never known any pups to be born in the water nor on the coast elsewhere than on the Pribilof Islands. *Fred. Smith, p. 249.*
- I have never known of fur-seal pups being born elsewhere than on the aforesaid rookeries. *Jno. W. Smith, p. 233.*
- Have never known of pup seals being born in the water, nor anywhere else on the coast outside of the Pribilof Islands. *Wm. H. Smith, p. 478.*
- I have never seen any young pups in the water. I do not think they breed in the water. *Cyrus Stephens, p. 479.*
- Have never known or heard of pups being born in the water or on the land anywhere outside of the Pribilof Islands. *Joshua Stickland, p. 350.*
- Q. Have you ever seen seals born in the water, and is it your opinion that it is possible for them to be born in the water?—A. It is impossible for seals to be born in the water. *Gustave Sundrall, p. 481.*
- Pups can not swim at birth, hence the female can not give birth to her young in the water without sacrificing its life. *Z. L. Tanner, p. 375.*
- Have never known pups to be born in the water, or on the land elsewhere than the Pribilof Island. *M. Thlkahdaynahkee, p. 269.*

- Have never known any pups being born in the water or on the land on the coast of Alaska outside of the Pribilof Islands.
W. Thomas, p. 485.
- Thunk, p. 245.* Have never known or heard of any fur-seal pups being born in the water.
- Charlie Tlaksatan, p. 270.* Never knew of pups being born in the water.
- Toodays Charlie, p. 249.* Have never heard, nor do I believe there ever was, any pups born in the water.
- Peter Trearsheit, p. 271.* Never heard of nor seen pups born in the water or on the coast of Alaska, outside of Pribilof Islands.
- Trongkwak, p. 246.* Have never heard of seal pups being born in the water nor anywhere else in Alaska.
- Have never seen or heard of pups being born in the water or on the land on the coast of Alaska, Have heard that pups are all born on the Pribilof Islands.
Jas. Unatajim, p. 272.
- George Usher, p. 291.* Have never seen any pups born in the water.
- Have never known a pup to be born in the water. I have never known of a pup seal being born on the rocks of the coast anywhere. Have heard they are born on the Pribilof Islands.
Rudolph Walton, p. 272.
- Charlie Wank, p. 273.* Never have known of pups being born in the water, nor elsewhere on the coast of Alaska.
- Watkins, p. 395.* Nor can they give birth to their young in the water or the kelp and have them live.
- P. S. Weittenhiller, p. 274.* I have never known any pups to be born in the water or anywhere else except on the Pribilof Islands.
- From my experience and observation relative to the fur-seal I am firmly of the opinion that it is a physical impossibility for the mother seal to give birth to her young in the water and preserve it; but that it is necessary for her to haul up on the land to give birth and rear her young. I have never known or heard of their giving birth to their young other than on their regular hauling grounds.
- Michael White, p. 301.*
- Billy Williams, p. 301.* Have never known any pups to be born in the water or on the land in any part of British Columbia or Alaska.
- Fred Wilson, p. 301.* I have never heard of pups being born in the water or on the land anywhere on the coast of British Columbia or Alaska.

They do not give birth to their pups in the water nor on the kelp. Have never seen a black pup in the water along the coast, but used to capture a great many gray pups, but this year I have not seen one. *Wispool, p. 396.*

Have never known or heard of pups being born in the water nor on the coast of Alaska outside of the Pribilof Islands. *Michael Wooskoot, p. 275.*

I go from Icy Bay to Sitka Sound and come in contact with the people of different tribes of Indians, and have never seen myself nor heard other Indians say that they had seen fur-seal pups born in the water. *Yahkah, p. 246.*

* * * * *

When I was a small boy, a few pup seals used to be driven into the bays by hard storms on the coast.

Have never seen or heard of any pups being born in the water or on the land around this part of Alaska. *Billy Yeltachy, p. 302.*

Have never known any pups to be born in the water or on the land anywhere in British Columbia or Alaska. *Hastings Yethnow, p. 303.*

I have never seen any pups born in the water. *Alf Yohansen, p. 369.*

Nor have I ever seen or heard of pups being born in the water. *Paul Young, p. 292.*

Have never seen any pups born in the water or on the land anywhere on the coast of Alaska or British Columbia. *Walter Young, p. 303.*

I have never seen a young black pup along the coast. *Hish Yulla, p. 398.*

* * * * *

I never killed a cow in milk along the coast.

I never have seen any pups born the same year, nor have I ever caught any cow seals on the coast that were in milk. *Thomas Zolnoks, p. 398.*

BIRTH ON KELP BEDS IMPOSSIBLE.

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(See "Aquatic Birth Impossible.")

I have never seen young seals born at sea, nor on kelp; nor do I believe they can live on kelp beds. *N. W. Anderson, p. 223.*

Nor do they ever give birth to their young on the kelp. *Bernhardt Bleidner, p. 315.*

- Bowca-chup*, p. 376. Seals do not give birth to their young in the water nor on the kelp; if they did they would be drowned and die.
- Thos. Brown* (No. 1), p. 319. I do not think that seals give birth to their young on the kelp.
- Landis Callapa*, p. 379. Nor do I think that they give birth to their young upon the kelp.
- Charlie*, p. 304. Seals do not give birth to their young in the water nor on the kelp.
- Nor do they give birth to their young on the water or on the keld. I never caught any little black pups along the coast. I used to catch a great many gray ones on the coast, but caught but one this year.
- Circus Jim*, p. 380.
- Louis Culler*, p. 321. The seals do not give birth to their young in the water, nor upon the kelp.
- I have never seen seals born in the water or on beds of kelp, nor do I believe a young pup could live if brought forth at sea.
- Jas. Dalgarduo*, p. 364.
- Frank Davis*, p. 383. Nor do they give birth to their young in the water nor on the kelp.
- Jeff Davis*, p. 384. They do not give birth to their young in the water or on the kelp.
- Dick*, or *Ehenchesut*, p. 306. He states that there are no kelp patches outside, where seals resort or where they breed.
- Ellabush*, p. 385. I have never known pups to be born in the water nor on the kelp.
- F. F. Feeny*, p. 220. I have never seen nor heard of a seal born at sea nor on kelp.
- Wm. Foster*, p. 220. I have never seen pups born on kelp beds, and I am certain they can not live and thrive on kelp beds.
- We have never seen fur-seal pups of the same season's birth in the water or on patches of floating kelp, and do not think they could be successfully raised under such conditions.
- Nicoli Gregoroff et al.*, p. 234.
- Arthur Griffin*, p. 326. Nor do they give birth to their young on the kelp.
- It is asserted that the fur-seals give birth to their young also on kelp patches, and lie asleep on their backs, with their offspring in their embrace, clasped to their breasts. This is descriptive of the sea-otter, but is not true of the fur-seal.
- W. S. Hereford*, p. 34.

I have never seen a young fur-seal pup of the same season's birth in the water at sea nor on a patch of floating kelp, and in fact never knew of their being born anywhere save on a rookery. I have, however, cut upon a gravid cow and taken the young one from its mother's womb, alive and crying. I do not believe it possible for a fur-seal pup to be successfully raised unless born and nursed on a rookery. I have seen fur-seals resting on patches of floating kelp at sea, but do not believe they ever haul up for breeding purposes anywhere except on rookeries.

Norman Hodgson, p. 367.

Nor neither do I believe it to be possible for them to have their young in the water or on the kelp and have their pups live.

Alfred Irving, p. 387.

Nor do they give birth to their young in the water or upon the kelp. I think a pup born in water or upon kelp would sink and die.

Ishka, p. 387.

Nor [do seals] give birth to their young in the water or on the kelps.

Selwisch Johnson, p. 388.

I have no knowledge of fur-seal pups being born in the water or on patches of floating kelp, and do not believe they could be successfully raised under such conditions.

Frank Korth, p. 235.

I never saw a pup seal in the water nor on beds of kelp, and I do not believe it possible for them to be raised there.

E. L. Lawson, p. 221.

I have never known of fur-seal pups being born on patches of floating kelp or in the water, at sea, or anywhere in fact, save on regular rookeries; neither do I believe it possible for them to be reared successfully under any other circumstances.

James E. Lennan, p. 370

Nor do I believe that they give birth to their young in the water or on the kelp.

James Lighthouse, p. 389.

Nor do I believe they give birth to their young in the water or on the kelp.

Thomas Lowe, p. 371.

Seals do not give birth to their young in the water nor on the kelp.

Moses, p. 309.

I have never seen any pups born on kelp.

P. C. Muller, p. 223.

I do not believe that pups born on kelp could be properly nursed and brought up. I do believe that it is necessary to their successful existence that they be born on land, since they can not swim at birth.

Arthur Newman, p. 210.

Seals do not give birth to their young in the water nor on the kelp.

Oslly, p. 390.

Seals do not give birth to their young in the water nor on the kelp. I never saw any black pups in the water, but we used to catch a great many more gray pups than we do now, and I have never captured any cows along the coast that were giving milk and that had given birth to their young that year.

Seals do not haul out upon the land along the coast and give birth to their young; nor do they breed on the kelp. If ever there was such an occurrence it must have been a premature birth caused by some accident to the female seal, and would result in the death of her young.

I never hunted fur-seals, but I have a knowledge of their habits and movements, and I never saw a pup seal in the water or on a bed of kelp, and I know a pup seal could not live and thrive on a kelp bed.

Nor do I know of any instances where the seals give birth to their young on the kelp.

Nor do they give birth to their young on the kelp.

Nor do they breed on the kelp or in the water.

Nor do I think they give birth to the young in the water on the kelp.

Seals do not give birth to their young in the water nor on the kelp.

PODDING.

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When the pups grow to be 6 or 8 weeks old they form in "pods" and work down to the shore, and they try the water at the edge until they learn to swim.

By the middle of July the mothers were going constantly back and forth to sea; the pups, left more to themselves, collected in groups—"pods," as they are called—and by the last of July they worked their way down to the shore and began learning to swim.

The pups remain upon the rookeries at or near where they are born until about 5 or 6 weeks old, when they congregate in groups or "pods."

At that age [6 or 8 weeks] they form themselves into "pods" and work themselves down to the water's edge. After several days of repeated trials and failures they finally learn to swim.

At about 5 weeks old the pups begin to run about and congregate in bunches or "pods;" and at 6 to 8 weeks old they go into the shallow water and gradually learn to swim. *J. C. Redpath, p. 148.*

LOCOMOTION ON LAND.

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It moves in a gait more like going on "all fours," while the adult seal moves by drawing up the hind quarters as a whole and then throwing itself forward its own length. *J. Stanley Brown, p. 16.*

A black pup walks on all fours, raising his body more from the ground than an older seal, and appears to be more of a land animal than his elders. All seals can move very rapidly on land when forced to do so, and seem to have remarkable powers of land locomotion when the formation of their flippers and body are taken into consideration. *George Comer, p. 598 (Antarctic).*

During this period, also, a pup moves very much like a young kitten, using its hind flippers as feet. *Samuel Falconer, p. 164.*

Another point that shows a pup is a land animal during the first weeks of its existence is, that it uses its hind flippers as feet, running on them in much the same manner as other land animals, while a seal that has learned to swim drags his hind flippers, using his front flippers to pull himself along. *J. H. Moulton, p. 72.*

LEARNING TO SWIM.

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When about 4 weeks old the pups get together in groups or pods and approach nearer and nearer to the shore; after a week or so they are down near the surf, but run back terrified whenever a wave comes in. They then begin to get acquainted with the sea, and little by little overcome their terror and learn to use their flippers. I have seen a female sometimes pick her pup up by the back of the neck and carry it out into the water and let go of the little animal, catching it before it drowned and holding it above the waves; this she would repeat time and again until the little fellow got over his terror and began to use his flippers. By the 1st of September nearly all the pups have learned to swim, and until the time of their departure from the islands spend their time both on land and in the water, but by far the greater portion of this period is spent on land. *Chas. Bryant, p. 5.*

The pups are born in June and July, and they learn to swim in September. They can not swim when they are born. *Karp Buterin, p. 104.*

When 6 or 8 weeks of age the older seals, generally the mothers, force the young seals into the water and teach them to swim. *Samuel Falconer, p. 164.*

I have seen a mother seal carry her pup out a little way into the water and force the little animal to use its flippers.
Samuel Falconer, p. 165. Finally, after repeated trials, the pup learns to swim, and from that time on spends a good deal of time in the water; but still the greater portion of these first months of its life are spent on land sleeping and nursing.

At 7 or 8 weeks old the pups learn to swim by first paddling in the shallow water, but after learning to swim they
Anton Melovedoff, p. 144. appear to prefer to stay on land until the cold weather drives them off in November.

When the pups are about six or eight weeks old they begin to herd together in groups called "pods;" these by degrees
T. F. Morgan, p. 62. work down toward the shore and after several trials and failures at last find the use of their flippers and learn to swim; from this time, the 1st of August or thereabouts, the pup goes into the water at intervals, but remains most of the time on the rookeries until about November, the time which the pup spends in the water depending a great deal on the weather.

In the winter of 1871-'72, I made one of an expedition from San Francisco to the Antarctic fur-seal rookeries of
Arthur Newman, p. 210. Staten Land, and spent altogether, about a month's time on the rookeries during the months of November and December, 1871, and January, 1872, which is their breeding season. I there observed that a pup is fully a month old before venturing in the water at all, and I do not believe they are expert until between three and four months of age.

When five or six weeks old the pups begin to run around and form bunches or "pods;" at seven to eight weeks old
L. A. Noyes, p. 82. they try the water at the edge, where, after paddling in the shallows, they gradually learn to swim. And after becoming expert swimmers they continue to show a preference for land, where they generally remain if not driven into the water by heavy rain or warm sunshine.

I have seen thousands of pups learning to swim at the rookeries on St. Paul, and their early efforts were quite as
Z. L. Tanner, p. 375. awkward as those of a boy when taking his first dip. Their trouble seems to be to keep their heads above water.

During the rutting season the bulls generally remain upon land, while the females are constantly going to and
Geo. Wardman, p. 178. from the water, feeding and bathing, and teaching their pups to swim, as I believe, which the pups are unable to do for the first six weeks of their existence. In fact, a pup is afraid of the water during these six weeks and needs a good deal of coaxing at first to get him to go into it. Young pups can not be driven into the water by men, and when I tried to drive them in before they had learned to swim they would invariably run back from the water.

DEPARTURE FROM THE ISLANDS.

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They will remain on the island until November, and, if not too cold, will stay till December. I have seen them swimming around the island late in January. *K. Artonanoff, p. 100.*

The pups leave in November and all seals are gone about the middle of December, except when the weather is very fine, and then we often kill seals in January. *Karp Buterin, p. 104.*

On leaving the island the pup goes southward with his mother and companions through the Aleutian passes into the Pacific Ocean. *Samuel Falconer, p. 165.*

And I think they would not leave the islands only for the cold weather, or it may be they follow the cows to sea after being weaned. *John Fratis, p. 109.*

Toward the first or middle of November the pups leave the islands; they instinctively turn southward toward the Aleutian Islands. *T. F. Morgan, p. 62.*

DEPENDENCE UPON ITS MOTHER.

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(See also "Death of cow causes death of pup.")

The cow is 3 years old before she bears young. The pups are about 45 days old before they can go into the water, but they nurse the mother as long as they stay on the island. *William Brennan, p. 359.*

In the first weeks of its life the pup does not seem to recognize its mother, but the latter will recognize and select her offspring among hundreds. *J. Stanley Brown, p. 15.*

The young seals require the nourishing care of their mother for at least four months, and pups have been killed on the island late in November the stomachs of which were filled with milk. *J. Stanley Brown, p. 16.*

The pup is nursed by its mother from its birth so long as it remains on the islands, the mother leaving the islands at different intervals of time after the pup is 3 or 4 days old. I have seen pups, which I had previously marked by a ribbon, left for three or four days consecutively, the mothers going into the water to feed or bathe. A mother seal will instantly recognize her offspring from a large group of pups on the rookery, distinguishing it by its cry and by smell; but I do not think a pup can tell its own mother, as it will nose about any cow which comes near it. *Chas. Bryant, p. 5.*

I don't think a pup is weaned till he is 4 months old. *Jas. W. Budington, p. 595. (Antarctic).*

George Comer, p. 598 Until the pup sheds his black hair he is entirely
(*Antarctic*). dependent on his mother's milk for sustenance.

Pups require the nourishment from their mothers for at least three
W. H. Dall, p. 23. or four months after their birth, and would perish
if deprived of the same.

The only means of sustenance for a pup while it remains on the island
is nursing, which it continues till it takes its de-
Saml. Falconer, p. 165. partures sometime in November, as a rule; but dur-
ing one exceptionally warm winter some seals re-
mained about the island during the whole winter.

The pups have no sustenance except what the cows furnish and no
Jno. Fratis, p. 165. cow suckles any pup but her own. The pups
would suck any cow if the cow would let them.

The difference between a well-nourished pup and one starving to
death is also easily recognized; one being plump
W. S. Hereford, p. 33. and lively, growing extremely rapidly, the other
slowly dwindling away, its body becoming lean,
long, and lanky, the head being the largest and most conspicuous part.
The poor little thing finally drops from sheer exhaustion in its tracks,
being only a matter of time before it succumbs to starvation. In refer-
ence to the time a newly-born seal could live without its mother's care,
I can say that I have known one particular pup seal to have posi-
tively existed for a period of at least two weeks or more from the
moment of birth with not over a pint or so of cow's milk, at the most,
which had to be forced down its throat. Perhaps this will be best
understood by explaining the circumstances.

Little "Jimmie," as this particular pup was called, was the child of
adverse circumstances, as his mother happened accidentally to be caught
in a large drive and could not be separated from the herd until the
killing ground was reached. Shortly after being parted out and al-
lowed to go free, on her way to the water she hurriedly gave birth to
this pup and continued on her journey. The pup was watched care-
fully for a few days, and when it was thought to have been deserted a
kind-hearted employé of the company, Mr. Allis, brought it into the
village with a double view of trying to save its life as well as to make
a pet of it. For the first few days, as nobody could manage to make
him eat and as he would generally get the best of some friendly finger
in these attempts at feeding, he was let severely alone. Then followed
various contrivances, mechanical and otherwise, for holding his head
so as to feed him with a spoon or a nursing bottle, but all to no pur-
pose, for he would get most of the milk everywhere but where it was
intended to go. This went on for all of two weeks or more. I then
equipped myself with a large syringe and a flexible tube, and about a
pint or so of warm, fresh cow's milk. Little "Jimmie's" mouth was
kept open, the tube was passed down his throat into his stomach, the
syringe filled with milk, in quantity as before stated, and which was
unanimously agreed was not too much for him at one feeding, was
slowly injected down the tube into his stomach. After the operation
the tube was carefully withdrawn and "Jimmie" was left to his own
devices. The pup, much to the gratification and amusement of all
present, immediately began to show in the most unmistakable manner
the greatest of seal delight, *i. e.*, to lie down in the various positions

of seal comfort, on his back and side, and wave and fan himself with his flippers, scratch himself, bleat, etc. As these signs were unmistakable to all present who were familiar with the habits of seals, the operation was thought to be a success. Up to the last time the pup was seen, late that night, he was doing finely, but next morning he was found dead, and I attributed his sudden taking off either to the small boy or an accident during the night.

Another instance is that of a young pup seal born under almost similar circumstances some years previous, and deserted by his mother. It was placed near the water's edge to see if in a few days its mother would not return to it, or maybe it might take to the water naturally and swim across to an adjoining rookery a few yards distant, and possibly there be found by its mother and its life thus be saved. Day after day this pup was watched, but it would not go near the water and neither did its mother return. After several days or so a new employé of that season only, and knowing nothing whatever of fur-seal life and habits, coming along that way and finding the pup in the grass, thinking probably that he had gotten lost from the other side, took him up and threw him into the water, with a view of giving him a chance of swimming back home. It was a mistaken kindness, however, for he was immediately drowned, as he was too young to swim, his head being too heavy for his body.

These cases demonstrate two points, *i. e.*, that a very young fur-seal can live a considerable time without nourishment, several days or more; also that they can not swim, and any and all fur-seals born in the water must necessarily perish.

I remember these two instances distinctly, as I was very much impressed by them at the time. Others might possibly be cited, but I think these will suffice. These two isolated instances show that a young fur-seal can live without its mother's care for a week or so, and that the little fellows on the rookeries, who probably have been nursed to their heart's content before the mother seals took their departure, stand at least an equal, if not superior, chance of life, until their mother's return from the feeding grounds, even giving them wide margins for delays.

The pups driven up for native use in the fall were always full to overflowing with milk, their stomachs containing nothing else. These pups are as round and plump as partridges, while those dead on the rookeries, unless killed by accidents of some kind, are never of the plump and well-nourished looking order, but are generally lean and thin, bearing all the external signs of neglect and starvation.

They do not eat or drink anything except the milk they get from the cows. *Nicoli Krukoff, p. 133.*

They are nursed by the mother, who, after copulation has taken place, is permitted by the old male to go at will in quest of food. At about six weeks old the young gather in groups and shortly after learn to swim, but depend for a long period upon the mother for sustenance, hence her destruction must result in the death of the young through starvation.

Until 1891 we were allowed to kill several thousand pup seals for food in November, about

Anton Melovedoff, p. 144.

the time they were ready to leave the island. We generally killed ten or twelve for every person on the island, and when we killed them they were always found to be full of milk.

The pup, however, seems to make no distinction between the cows, endeavoring to nurse from any which come near it. Then, too, a pup is not weaned till it is four or more months old, depending entirely on its

J. H. Munton, p. 72. mother for sustenance.

The pup is entirely dependent on its dam for sustenance, and when it is a few days old she goes into the sea to feed, returning at intervals of a few hours at first, and

L. A. Nyren, p. 22. gradually lengthening the time as the pups grow older and stronger, until she will be, sometimes, away for a whole week.

* * * * *

They make no effort to secure sustenance of any sort beyond that furnished by their dams.

I have examined many pups at the food killings in November, and I never found anything but milk in their stomachs.

At birth and for several weeks after the pup is utterly helpless and entirely dependent on its dam for sustenance, and

J. C. Redpath, p. 145. should anything prevent her return during this period, it dies on the rookery. This has been demonstrated beyond a doubt since the sealing vessels have operated largely in Bering Sea during the months of July, August, and September, and which, killing the cows at the feeding grounds, left the pups to die on the islands.

After learning to swim, the pups still draw their sustenance from the cows, and I have noticed at the annual killing

J. C. Redpath, p. 145. of pups for food in November, that their stomachs were always full of milk and nothing else, although the cows had left the island some days before. I have no knowledge of the pups obtaining sustenance of any kind except that furnished by the cows; nor have I ever seen anything but milk in a dead pup's stomach.

The death of every such mother seal at sea means the death of her pup on shore, because it is absolutely and entirely

Dan. Webster, p. 152. dependent on her for its daily sustenance.

VITALITY.

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(See "The Cows—Feeding Excursions.")

E. Aronson, p. 160. When the pup is 2 or 3 weeks old the mother often stays away for five or six days at a time.

He also said that the pups could live on land at least seven or eight days without sustenance and that those born in the water would immediately drown.

Jas. Melovinsky, p. 152.

I have noticed in the killing of young seals (pups) for food, in November, that their stomachs were full of milk, although apparently the mothers had not been on the islands for several days previous. *Dani. Webster, p. 180.*

THE BULLS.

ARRIVAL AT THE ISLANDS.

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In May, the bull seals commence to haul upon the rookeries, and the cows come three or four weeks later. *William Brennan, p. 539.*

Old bulls and male seals appear to enter Bering Sea before the cows leave the coast. *Henry Brown, p. 318.*

The records kept upon the islands concerning the arrival of seals show that in the last days of April or first days of May the bulls begin to make their appearance. The first arrival on St. Paul in 1871 was on May 4, in 1890 on April 26. In the year 1876 the unusual fact appears in the record that a large number of bulls were in the waters about the island on February 15. *J. Stanley Brown, p. 13.*

I have further observed the fact that the bulls have a tendency to return to the same place on the same rookery year after year. One bull in particular, which I knew from his peculiarities, returned to the same rock for five seasons. *Chas. Bryant, p. 7.*

In the spring, as early as February or March, the big bulls first came. *Ruth Burdukofski et al., p. 206.*

The "wigs" (the old male seals) are the first seals to arrive on the rookeries; coming about the middle of October. They fight for advantageous places on the beaches and never leave their positions after once being established. *Jas. W. Budington, p. 595. (Antarctic).*

Seals always go back to the same rookery after a migration and generally endeavor to get the same position on a beach.

The full grown male seals commence to appear about the islands during the latter part of April or first of May. They come from the southeast through the passes between the Aleutian Islands. The bulls, as these seals are called, do not immediately land, but swim about surveying the coast; finally, they come on shore at the breeding rookeries, invariably selecting a shore covered with bowlders and avoiding sand beaches, for the reason, I believe, that when the pups are born on these rookeries they may not be swept away by the surf. I believe also that a bull comes back to the same rookery every season. This belief was formed from information I received from several of the natives of the *S. N. Bugnitsky.*

islands, who told me that they had at one time cut the ears of some pups so that they could be readily distinguished; that when the pups were grown they had noticed each one on a particular rookery, and that in the years following the rookery had the same occupant.

Toward the latter part of October the "wigs," or full-grown males, begin to congregate on the breeding rookeries.
Geo. Comer, p. 597 A "wig" weighs anywhere from 250 to 500 pounds, and must be four or five years old before he has strength and endurance enough to maintain a place on the rookery.
(Antarctic).

The battles for position between the rival "wigs" are most fierce, but at last they all get their places, and await the coming of the "clap matches," or females.

C. L. Fowler, p. 25. The bull seals arrive on the islands from the latter part of April to June 15.

John Fratis, p. 108. The seals came to the islands in spring and they came from the southward.

The first bulls arrive late in April or very early in May, and they are coming along till June.

W. S. Hereford, p. 36. The first arrival of bulls is about the same time as formerly, but after that they till in very much slower.

L. Kimmel, p. 173. The bulls (males 6 years old and upwards) began to come to the island the first part of May.

The seals came to the islands in the spring and they come from the south through the passes of the Aleutian Islands.
Nicoli Krukoff, p. 133. The bulls come first in May.

The bull seal arrives at the island early in May, and takes his place on the breeding rookery, and he stays there until August or September without food.
Aggei Kushin, p. 129.

The seals come to the islands every year from the southward, through the passes of the Aleutian Islands; and the bulls reach the islands late in April or early in May, and they continue to haul out till June. They select their stations on the rookeries, and I believe they generally return to the spot they occupied the previous year.
Anton Melovedoff, p. 144.

I have observed certain bull seals return year after year to the same place on the rookeries, and I have been informed by natives, that have lived on the islands, that this is a well-known fact and has been observed by them so often that they stated it as an absolute fact.
T. F. Morgan, p. 61.

The first arrivals of seals at the islands usually take place early in May. These are of the class of large bulls which occupy positions on the rookeries.
Jno. M. Morton, p. 66

Upon their return to the islands in the spring the seals approach the land confidently and their occupancy of the rookeries is regular and systematic. That the male seal returns year by year to the same familiar spot or ground on the rookeries, when it is possible for him to do so, appears to be probable. I have seen this fact demonstrated in certain instances without any possibility of error; and when this is considered, and his well-known systematic and methodic habits are taken into consideration, the theory that such is the prevailing practice, at least among the rookery bulls, seems a most natural and plausible one. *Jno. M. Morton, p. 70.*

I do not know by what instinct they were led to this remote region to which they yearly return. The bulls begin to arrive upon the breeding rookeries about the 1st to the 10th of May; they then select their locations, which they hold during the season. *S. R. Nettleton, p. 75.*

Early in May the bulls approach the islands and after cautiously and carefully reconnoitering the surroundings haul out and select their stations on the rookeries, where they patiently await the coming of the cows. *J. C. Redpath, p. 148.*
 * * * In my opinion, the bull seal returns to the spot he occupied the preceding years, and I know of several instances where he could be distinguished by the loss of an eye or flipper, in which he actually did return for a series of years to the same spot.

The bulls generally begin to arrive on the island during the first part of the month of May. *Thomas F. Ryan, p. 174.*

ARRIVAL OF THE COWS.

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About one month after the arrival of the bulls or in the first days of June the females begin to appear. In 1891 the maximum of daily arrivals was reached from June 24 to 28. *J. Stanley Brown, p. 13.*

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The time of the arrival of the virgin cows is not easy to determine, but from my observation my present conclusion is that they arrive with the cows and for a while spend their time in the water or on the land adjacent to the rookery margin.

The females or "clap-matches" come a month later and are captured by the "wigs" who get as many as they can take care of. We never killed the seals until the females had arrived. *Jas. W. Budington, p. 595 (Antarctic).*

Last of all in early June came the mothers or "matkie" which were in haste to reach the land to be delivered of their young. *Ruth Burdukofski et al., p. 206.*

The female seals begin to arrive the latter part of May, going directly to the breeding rookeries. *S. N. Buynitsky.*

About the 10th of November the females begin to arrive, and land on the breeding rookeries. *Geo. Comer, p. 598 (Antarctic).*

C. L. Fowler, p. 25. The cows come to the islands between June 1 and July 20.

Jno. Fratis, p. 108. The cows appear about the 10th of June, and they are all on the rookeries about the middle of July.

W. S. Hereford, p. 36. The females for the last few years have been somewhat later [than the bulls] in their arrival.

L. Kimmel, p. 173. The cows did not come till the latter part of the month and the first part of June.

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The cows begin to haul out in June and take their places on the breeding rookeries beside the bulls, where the young pups are born, in from one to three days after the arrival of the cows.

My observation has also been that while male seals are sometimes timid about coming ashore, the females being about ready to pup, haul up on the land, even in spite of unusual or unfavorable conditions.

Jno. Malowansky, p. 198.

Anton Melovedoff, p. 144. The cows begin to haul out early in June, and they continue to haul out until about the middle of July.

The females, as a class, begin to appear in June, and by the middle of July the whole of the vast herd may be said to have arrived and established itself.

Jno. M. Morton, p. 66.

During the latter part of June and the early part of July the cows begin to arrive heavy with young, of which they are delivered, usually, forty-eight hours after their arrival.

S. R. Nettleton, p. 75.

The mother seals or cows commence to haul out about June 10, and nearly all of them are on the rookeries by July 15th.

J. C. Redpath, p. 148.

Thomas F. Ryan, p. 174. The cows begin to appear about June.

ORGANIZATION OF THE HAREMS.

Page 109 of The Case.

The male seal establishes himself on the breeding rookery in May or June, when he is 7 or 8 years old, and he fights for his cows, and does not leave the place he has selected until August or September.

Kerrick Artomanoff, p. 101.

The bulls choose such ground as they mean to hold through the summer, fight savagely, and the strongest wins. Each has his own family, and should a stranger approach there is war. On the rookeries one may see all classes of seals apart from each other, the bulls and breeding cows in one place and the young in another. *William Brennan, p. 359.*

Upon reaching the islands in early June I found that the bulls, in accordance with their habit, had not only pre-empted their claims upon the breeding grounds but were well established in their possession. *J. Stanley Brown, p. 13.*

Being polygamous each bull seeks to gather around himself as many cows as possible to form what has appropriately been called his "harem." Here and there at wide intervals a few cows were already to be seen beside them but at no time during the season were the rookeries free from the contention of the males that sought by coaxing or theft to procure females with which to increase their harems, and from the time I landed until the close of July no master of a harem abandoned his position to procure either food or water. These bulls during the breeding season were the embodiment of ferocity and at no time did I see one of them that would not instantly and fiercely resist any encroachment upon his territory whether it were made by his neighbor or by man. At no time would a bull fail to scramble across the rocks or course rapidly around his harem to coerce a rebellious or deserting consort. The creature that can exist without nourishment for eighty or ninety days while subject to the greatest physical exertion and strain must possess a vitality unsurpassed by any other member of the animal kingdom and must bequeath to its offspring even in their immaturity an unusual capacity for endurance.

* * * * *

The number of females which a bull is able to gather around him to form his harem, depending as it does in some measure upon topographic conditions, may be represented by the extremes of one and seventy-five. The average number of last year was about twenty or twenty-five. Unusually large harems were infrequent.

When the male seal returns after his sixth or seventh migration he goes to the breeding rookeries, and, if he is able, becomes master of a harem with the title of "see-catch." He arrives now at the islands during the month of May, and after repeated battles obtains a place upon the breeding grounds. *Chas. Bryant, p. 6.*

* * * * *

Here he gathers about him as many cows as he is able to place within the radius of the area controlled by him; the average seen at one time while I was on the islands was from 15 to 20 to a bull; but as the cows were constantly going to and coming from the water it is impossible to calculate accurately the number to a harem. Probably not all the cows belonging to a bull were on shore at any one time.

When I first went to these regions a "pod" or family consisted of a "wig" and 12 or 15 "clap-matches," but this year everything was disorganized and not more than 2 or 3 seals were together; sometimes there being 1 "clap-match" and 2 "wigs." There were in 1891 about as many "wigs" *Jas W. Budington, p. 595 (Antarctic).*

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as "clap-matches." This equality of numbers of the sexes on the rookeries is unnatural, as the seals are polygamous. The cause of the great falling off in the number of "clap-matches" is we used to kill a dozen females to one male, and so not only the males are in excess but the species has been destroyed by killing the producers.

Each "wig" gets about him as many "clap-matches" as he can, the average number, I should say, being from ten to twenty. The "wig" never allows the "clap-match" to leave his harem for some time, always seizing her and dragging her back if she attempts to go into the water.

Geo. Comer, p. 598.
(*Antarctic.*)

When the male reaches the age of 7 or 8 years he seeks the rookeries, and is then able to maintain his position against his fellows. He has come earlier than formerly to the islands, having arrived in May, and after a little investigation has landed upon the breeding grounds, giving battle to all who endeavor to usurp his place. I have seen twenty cows or more about a bull, but of course the exact number in a harem is a matter of conjecture, as many cows are absent in the water at all times after the season has fairly commenced.

A male seal is over 5 years of age before he is able to maintain himself on the breeding rookeries against the attacks of his fellows.

Louis Kimmel, p. 173.

The seals are polygamous in their habits as to breeding, and each full-grown and vigorous male animal endeavors to gather around himself the largest possible number of females, and to appropriate and hold by force the space necessary for them and their young. Accordingly, when the males return to the islands, beginning in May of each year (in favorable seasons some may be seen in April), the most desirable locations on the breeding grounds are appropriated by the strongest and most vigorous males, while the weaker or half-grown, or young, are forced to take places more remote from well-defined centers of population.

In June the females driven by the near approach of maternity arrive, and on landing are forced by the nearest male to remain near himself as long as possible, but as the space he can hold is limited and soon filled, his neighbors attempt to steal from his harem, which gives rise to fierce contests, in which, not infrequently, the female is the victim and is maimed or killed, and the young (pups), perhaps just born, are trampled and crushed; hence it is evident that a superabundance of males on the breeding grounds is not desirable, and it is also evident that an intelligent and carefully applied system of killing males only must result favorably to seal life, by preventing overcrowding, and thus removing the cause of a constant warfare which could not fail of being fatal to vast numbers of females and young of both sexes.

After the fifth or sixth migration the male seal, now called a bull, returns to the islands about the first of May and hauls up on the breeding rookeries, provided he is able to maintain himself there, which takes many bloody conflicts. There he gathers about him as many females as he is able.

T. F. Morgan, p. 63.

In about the same length of time* after the birth of their one pup they have coition with the male, upon the rookeries, and then return to the water to feed. The bull—the lord of the harem—remains on the rookery during the entire season of about four months, protecting the young and preventing the invasion of his domain by neighboring bulls and from the young and vigorous bachelors who have not yet reached the age and condition of strength to enable them to cope successfully with the older males, who, by reason of their superior strength, are able to hold their position against all comers. *S. R. Nettleton, p. 75.*

The male breeding seals, or bulls, begin to haul out on the breeding rookeries early in May, and they come in more and more rapidly as the month advances, and selecting their respective stations lie down and sleep almost continuously until within a few days of the coming of the females or cows, when they assume a sitting posture and set up a bellowing noise peculiar to themselves, which I suppose to be a “call” to the approaching herd of cows. It is at this time the bull appears at his best and in his most aggressive mood, and none but the physically strong and successful are allowed to remain within striking distance of the veterans. *L. A. Noyes, p. 81.*

The cows begin to haul out in June, and practically they are all on the breeding rookeries by July 15. Immediately on arriving they are taken possession of by the bulls, the strongest and most aggressive securing the greatest number, and guarding with jealous care and increasing vigilance.

The bulls maintain their positions on the rookeries from the time they arrive till the cows come by most bloody battles, and after the cows commence arriving they are continually contending for their possessions. During these conflicts they are often seriously wounded, and their exertions are far more violent than any effort made by a young male during a “drive.” *Danl. Webster, p. 183.*

We find some barren female seals—female seals too old to breed, or that for some reason have not bred. I have often wondered that there are not more barren seals. The males on the islands will secure twenty or twenty-five females, and the male being constantly engaged in fighting, it is likely that many of the females are neglected. *Theo. T. Williams, quoting Cap. Olsen, p. 505.*

POWERS OF FERTILIZATION.

Page 109 of The Case.

From my observation as to the vitality of male seals I believe that it is difficult to determine with absolute accuracy the capacity of the bull for rookery service, as it must in large measure depend upon the personal equation of the individual, but I am nevertheless of the opinion that a conservative estimate would be that he could serve without difficulty at least one cow per day during his stay upon the rookery. Possibly

* Forty-eight hours.

the best results would not be achieved thereby, but this capacity, taken in connection with the fact that young males persistently seek their opportunities upon the rookery margins and at the water's edge during the entire season, leaves no doubt in my mind that no breeding female leaves the island unimpregnated. This view is further borne out by the fact that in the first days of rookery life I repeatedly counted groups of female seals by the side of each of which lay her pup.

Chas. Bryant, p. 6.

And I am of the opinion that a bull could, if necessary, serve seventy-five to a hundred cows during a season.

I am of the opinion a bull can easily and effectively serve fifty or more cows in a season, and I think at first he will fertilize six to eight a day.

Saml. Falconer, p. 166.

C. F. E. Krebs, p. 195.

I believe one bull capable of serving at least fifteen or twenty cows, with most desirable results.

It is my opinion that a bull is able to fertilize a hundred or more cows, and this fact based upon my observations of the habits and conditions of the males while located in the rookeries.

B. F. Scribner, p. 89.

It is my opinion that a bull is able to serve from three to five cows a day, and certainly over a hundred in a season. I have seen over forty cows at one time in a harem, and the bull who possessed this harem was continually striving to obtain more cows.

W. B. Taylor, p. 177.

Then, too, the male seal must have great vitality to remain on the rookeries for three months without eating or drinking and with very little sleep. In spite of this drain on his vital force he is able to fertilize all the cows which he can get possession of, and a barren cow is a rarity. I believe that a bull can serve one hundred or more cows, and it is an absurdity to think that an animal possessing such remarkable vigor could be made impotent by being driven or redriven when a "Bachelor." An impotent bull would have neither the inclination or vigor to maintain himself on the rookeries against the fierce and vigorous possessors of harems. The only bulls hauling up away from the breeding rookeries are those whose extreme old age and long service have made them impotent and useless, and I have never seen or heard tell of anything that would make an exception to this rule.

Danl. Webster, p. 183.

COITION.

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I am asked whether the seals copulate in the water. It is a question that is often diseussed at the islands, and neither the scientific observers nor the unscientific are able to agree about it. I have seen seals in position when it seemed to be attempted, but doubt whether it is effectually accomplished. If it were, I think we should see pups sometimes born late and out of season, but such is not the case.

Jno. Armstrong, p. 2.

Pelagic coition I believe to be impossible. The process upon land by reason of the formation of the genital organs is that of a mammal; is violent in character, and *J. Stanley Brown, p. 14.* consumes from five to eight minutes. The relative sizes of the male and female are so disproportionate that coitus in the water would inevitably submerge the female and require that she remain under water longer than would be possible to such an amphibian. I have sat upon the cliffs for hours and watched seals beneath me at play in the clear water. It is true that many of their antics might be taken for copulation by a careless observer, and this may have given rise to the theory of pelagic coition. I have never seen a case of the many observed which upon the facts could properly be so construed.

In watching the seals while swimming about the islands I have seen cases where they appeared to be copulating in the water, but I am certain, even if this was the *Chas. Bryant, p. 6.* case, that the propagation of the species is not as a rule effected in this way, the natural and usual manner of coition being upon land.

I am also convinced that copulation takes place on land before they migrate; the period of gestation being about *Jas. W. Badington, p. 595 (Antarctic).* eleven months.

The female this season [second] is probably fertilized. As a general rule the impregnation is by the bull, to whose harem she belongs, and not by the young males, as *Saml. Falconer, p. 165.* has sometimes been stated. These young males always pursue a female when she is allowed to leave the harem and go in the water, but she refuses them. I am positive from my observations that copulation in the water could not be effectual, and would be a most unnatural occurrence.

I do not believe it possible for fur seals to breed or copulate in the water at sea, and never saw nor heard of the ac- *Norman Hodgson, p. 367.* tion taking place on a patch of floating kelp.

It has been said that copulation also takes place in the water between these young females and the so-called "nonbreeding males," but with the closest scrutiny of the *H. H. McIntyre, p. 42.* animals when both sexes were swimming and playing together under conditions the most favorable in which they are ever found for observation, I have been unable to verify the truth of this assertion.

I desire also to express my belief concerning the seal life that the act of copulation can not be successfully performed in the water. Those who have witnessed *J. M. Morton, p. 67.* its accomplishment on the rookeries must coincide with such opinion. A firm foundation for the support of the animals, which the ground supplies, and the water does not, is indispensable to oppose the pushing motion and forceful action of the posterior parts of the male which he exerts during coition. The closest observation which I have been able to give to the movements and habits of the seals in the water has furnished no evidence to controvert the above opinion.

Referring to the question as to whether pelagic coition is possible, I have to say that I have never seen it attempted, but from my observations I have come to the conclusion that pelagic coition is a physical impossibility.

Arthur Newman, p. 210. I have seen seals sleeping on kelp and feeding about it, but have never seen them copulate anywhere except on a rookery.

FASTING.

Page 111 of The Case.

(See also "The Cows—Food.")

He remains there about three months, that is, during the rutting season, without eating or drinking, never leaving his position. * * *

Chas. Bryant, p. 6. I do not think the male seals of any class feed to any extent while located at the islands, but the females are absent more or less of the time in search of food.

About the 20th of November we used to begin killing, and up to that time the "wigs" had never left their positions to feed or drink. I do not know how much longer they would have staid there fasting if we had not molested them.

Geo. Comer, p. 598
(*Antarctic*).

From their arrival in May for three or four months the bulls remain constantly upon the rookeries, never leaving their positions, and never eating or drinking, and sleeping very little. When they arrive they are enormously fat, weighing from 500 to 700 pounds, but when they depart in August or September they are very lean and lank.

Saml. Falconer, p. 166. I know the bulls do not eat during their four months' stay on the islands.

A bull never leaves the breeding rookery during the entire breeding season, which is a period of from two to three months.

Louis Kimmel, p. 74.

And they stay there till August or September without food or water, and without much rest or sleep.

Anton Melovédoff, p. 144.

I believe the bulls do not eat or drink during their three to four month's sojourn on the island, and I know they take little if any rest or sleep.

S. Melovédoff, p. 147.

From the time of his landing until the close of the rutting season or about the first of August he remains continuously on the breeding grounds, never eating and sleeping very little, if at all. About August 1 he again takes to the water, after having fertilized all the cows in his harem,

T. F. Morgan, p. 63.

very lean and lank, and his harem becomcs disorganized, the pups gathering into pods, the females going and coming from the water, and the bachelors mingling with the cows and pups.

From the time the bulls haul out in May till they leave in September they neither eat nor drink, and their lean and lanky appearance in September is in striking contrast with their rotund form and sleek and glossy coats in May. *L. A. Noyes, p. 81.*

When they first appear upon the rookeries the bulls are fat and sleek and very aggressive, but after a stay of from three to four months, without food, they crawl away from the rookeries in a very lean condition. *J. C. Redpath, p. 148.*

The bulls do not eat at all while on the breeding rookeries. *T. F. Ryan, p. 175.*

I gather, too, from further research that the nature of their food and the source whence it is obtained are better understood than formerly. It is well known that the bulls eat nothing during the rutting season and while taking care of their harems on the islands. *C. M. Scammon, p. 475.*

DISORGANIZATION OF THE ROOKERIES.

Page 112 of The Case.

The latter steps in the history of rookery life all facilitate, if indeed they do not play an important part in, the disorganization of the harem system. Just as soon as the pup has reached the age of forming pods and making little excursions hither and thither, the bull's authority diminishes, for his control over the mother is lost in the presence of the bleat of the hungry offspring. *J. Stanley Brown, p. 16.*

Up to the 20th of July the breeding grounds present a compact, orderly arrangement of harems, but under the combined influence of the completion of the serving of the females and the wandering of the pups, disintegration begun at that date rapidly progresses. It is at this time that the virgin cows of 2 years of age, or not older than 3, mingle more freely with the females and probably enter the maternal ranks, for the unsuccessful males and maturer bachelors, no longer deterred by the old males, also freely wander over the breeding grounds.

In August the families, or harems, break up and the cows scatter all over the rookeries. *John Fratis, p. 108.*

The rutting season among the seals continues through the months of June and July and into the early part of August, and upon its subsidence the rookery bulls, after their long fasting of two or three months, after many sanguinary battles, worn, starved, and emaciated, return to the water. Younger males now make their appearance on the rookeries, coming and going at will; and now thousands and tens of thousands of "pups," "podded" together near the beaches or plunging and roll-

ing in the surf, may be seen. By the middle of September the systematic organization of the rookeries is entirely broken up, and the major part of the seals have left the land.

By the middle of August the cows have been fertilized for the next year, after which the harems are abandoned, and the bulls begin to leave the islands, and the females and bachelors (or young males) intermingle indiscriminately on the rookeries.

DEPARTURE FROM THE ISLANDS.

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J. Stanley Brown, p. 15. When the season is over the bulls, now reduced in weight, find their way to the sea for recuperation.

When they arrive they are enormously fat, weighing from 500 to 700 pounds, but when they depart in August or September they are very lean and lank.

Samuel Falconer, p. 166.

C. L. Fowler, p. 25. And most all of them leave in August and September, and I have seen a few as late as October.

John Fratis, p. 108. And the bulls begin to go away late in August and all through September, so that very few are left in October.

The bull seal arrives at the island early in May, and takes his place on the breeding rookery, and he stays there until August or September without food.

Aggei Kushen, p. 129.

When the season ends and the compact family organization breaks up, the bulls begin to leave the islands, going away slowly through September and early October before they are all gone.

VITALITY.

Page 112 of The Case.

(See "Powers of Fertilization" and "Fasting.")

THE COWS.

AGE.

Page 113 of The Case.

(See also "Number of Pups at a Birth.")

Under my direction microscopic examinations were made of the female reproductive organs, which showed that some of the older females had borne at least eleven to thirteen pups.

Chas. Bryant, p. 6.

HAREM LIFE.

Page 113 of The Case.

The period of gestation is between eleven and twelve months. *Report of the American Commissioners, p. 326 of The Case.*

My observation has been that the female seal, prompted by the maternal instinct, lands, chooses by preference the rocky shore, and is permitted a certain amount of freedom in going her way until just the place most to her liking is found, but when once parturition is completed she then, being of necessity tied to the spot, becomes subject to the control of the male, which control is exercised with rigor. Should the point of access to a rookery be through a break in the cliff that offers only a steep incline the chances are the bulls located near will be favored by large harems. *J. Stanley Brown, p. 15.*

The frequency with which I saw females select a flat stone, over the edge of which the posterior portion of the body could hang previous to delivery, suggests an explanation of why the rocky margins are preferred to the sandy shores. It is not possible to determine how soon after the arrival of the mother the pup is born, for she may have been in the water adjacent to the island several days before finding it necessary to come ashore. But the accomplishment follows quickly upon the landing. Very soon thereafter the females receive the males, and there is no doubt that the master of the harem has knowledge of the female's condition as regards pregnancy, for, while some of his consorts, the latest arrivals, are jealously guarded, others are permitted greater freedom.

Within a few days after the birth of the pup the "elap match" is served by the "wig." After being served the "wig" lets her go into the water to feed, as she has to do in order that she may nurse her pup. *George Comer, p. 598 (Antarctic).*

The cow after bringing forth her young remains on the rookery until again fertilized by the bull, which is, I believe, within two weeks. The period of gestation is between eleven and twelve months. *Sam'l Falconer, p. 165.*

NUMBER OF PUPS AT A BIRTH.

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The female seal gives birth to but one pup every year, and she has her first pup when she is 3 years old. *Kerrick Artomanoff, p. 100.*

The female gives birth to but a single pup. The labor is of short duration, and seems not to produce great pain. *J. Stanley Brown, p. 15.*

On returning the third year the young male goes again upon the hauling grounds and the female to the rookeries, where she brings forth one pup. From this time until she is between 12 and 16 years of age she continues to bear one pup annually. *Chas. Bryant, p. 6.*

A cow will not suckle any pup but her own. Of this I am convinced, because I have seen cows drive off other pups when they approached them, and wait until they appeared to recognize their own.

Geo. Wardman, p. 178.

The mother seal readily distinguishes her own offspring from that of others, nor will she permit the young of any other seal to suckle her.

Danl. Webster, p. 180.

DEATH OF COW CAUSES DEATH OF PUP.

Page 115 of The Case.

[See also "The Pup's Dependence upon its Mother."]

Geo. Ball, p. 483. Q. Do the pups perish with the cows that you kill?—A. Certainly, they do.

As I have said before, the pups are not able to take care of themselves until they are several weeks old, and the cows must go off into the water to get food for themselves. It stands to reason that if the mothers are killed while away from the island, and the pups are left there alone, they will surely die; and it is a fact that many mothers are killed in Bering Sea.

William Brennan, p. 363.

Nearly every seal captured causes the death of either an unborn pup, or the death of a young pup by starvation on the islands.

Henry Brown, p. 318.

I am positive that if a mother seal was killed her pup must inevitably perish by starvation. As evidence of this fact I will state that I have taken stray, motherless pups found on the sand beaches and placed them upon the breeding rookeries beside milking females, and in all instances these pups have finally died of starvation.

Chas. Bryant, p. 5.

Dan'l Claussen, p. 412. Q. Do the pups perish with the cows that you kill?—A. Certainly.

Luther T. Franklin, p. 426. Q. Do the pups perish with the cows that you kill?—A. Naturally they must.

Edward W. Funcke, p. 428. Q. Do the pups perish with the cows that you kill?—A. Invariably they do; yes, sir.

The mother does not leave the rookery in search of food until she has dropped her young and become pregnant again, hence when she has been slain, it means the loss of three, as the young pup will unquestionably die for lack of sustenance.

Jas. Kiernan, p. 451.

Louis Kimmel, p. 174. It is my opinion that if a mother is killed her offspring dies of starvation.

Q. Do the pups perish with the cows that you kill?—A. Certainly. Not alone that, but they generally leave, while they go into the Bering Sea, a pup on shore, which also dies, from not being able to get any suste-

Chas. Lutjens, p. 459.

nance. The seal which is killed in the Bering Sea may be with pup, and also has a pup on shore, which make the killing of three seals to one.

Q. Killing the females, of course, destroys the pup and the female, and makes one less breed?—A. Yes, sir; when you kill the female seal you kill the pup with her. *Alexander McLean, p. 437.*

Q. Do the pups perish with the cows that you kill?—A. Certainly. That is, if the cows happen to be with pup. *Frank Moreau, p. 468.*

I have cut the young seal out of its dead mother and kept it alive for several weeks by feeding it on milk, but it would eventually die. I have known them to live days without eating anything. I have put pups cut out of dead seals to the breast of dead female seals when milk was running out of their teats, but they would not touch it. *Wm. Parker, p. 344.*

In the forepart of the season the pup is small, but in May and June, when they are taken off the Queen Charlotte and Kodiak Islands, the unborn pup is quite large, and we frequently take them out of the mothers alive. I have kept some of them alive for six weeks that were cut out of their mothers, by feeding them condensed milk. *Edwin P. Porter, p. 347.*

I am confident that if a mother seal was killed while absent from the island her pup would die of starvation in a few days, for the female seal will not suckle any pup but her own. *B. F. Scribner, p. 89.*

Q. Do the pups perish with the cows that you kill?—A. The pups always perish with the cows that are killed; yes, sir. *Gustave Sundvall, p. 481.*

Fourth. The female killed, the death of the unborn pup follows, entailing a double loss. *Z. L. Tanner, p. 374.*

A female when she returns from the feeding grounds will always select her own pup from all those on the rookeries, and will give suck to no other. It is therefore my opinion that if a mother seal is killed the pup will certainly die of starvation. *W. B. Taylor, p. 176.*

That does not take into consideration the unborn pup, or the pup of the mother that dies on the rookery. I have taken unborn pups from their mothers and fed them on condensed milk, and kept them for quite a time. I refer to cases where the mother is about ready to deliver her pup. *Adolph W. Thompson, p. 486.*

I further think that if a mother were killed her pup would starve to death, for she suckles the pup during the time it remains on the island, and it has no other means of subsistence. *Geo. Wardman, p. 178.*

And the killing of females shortly after the delivery of their young can not but have the effect of causing the death
C. A. Williams, p. 538. of their offspring through lack of nourishment.

FEEDING.

Page 115 of The Case.

(See "Feeding Excursions.")

FOOD.

Page 116 of The Case.

[See "Feeding Excursions."]

I have noticed that the stomachs of the majority of seals captured, provided they were young females or immature males, were empty, while the stomachs of the old bulls were well filled as though preparing themselves for the demand of the breeding grounds. Their diet was made up of salmon, red rockfish, and squid.
A. B. Alexander, p. 355.

William Brennan, p. 359. They live on fish and seawood.

I am satisfied the principal food of the fur-seal is fish. During the summer fish are practically unknown about the islands, but they abound in great quantities in all parts of Bering Sea, 30 to 40 miles from the islands. This fact came to my knowledge during my eighteen years' whaling experience in that locality.
Chas. Bryant, p. 6.

The principal food of the fur-seal is fish, which abound in all parts of Bering Sea, except in the neighborhood of the Pribilof Islands during the season the seals are on land. I have seen a fish in the mouth of a seal in the water, and have also seen fish in their stomachs when cut open. It is my belief they eat some kelp also.
Sam'l Falconer, p. 166.

Of the female fur-seal stomach I know nothing, as they are not allowed to be killed on the islands, but I think it would be safe to say remnants of a fish and kelp diet would frequently be found, as that is their natural food, and they do considerable traveling backwards and forwards from the fishing banks while nursing their young after having received the attention of the bulls.
W. S. Hereford, p. 35.

I examined the stomachs of the fur-seals taken in Bering Sea during the month of July, 1887, and found the greater number to contain Alaska mackerel. This goes to show clearly that at that season of the year this fish constitutes an important item in the diet of the fur-seal. Nursing fur seal cows were found in July as far as 100 miles to the southward of the Pribilof Islands in Bering Sea, feeding on mackerel as above.
Jas. E. Lennan, p. 370.

The food of the fur-seal I believe to consist mainly of fish, and probably chiefly, while in Bering Sea, at least, of eod-fish, the partially digested vertebrae of this species *H. H. McIntyre, p. 43.* having been found in the stomachs of slaughtered animals more frequently than any other food. Squid and crustaceans have also been found in some instances, but the supply of these is comparatively limited, while it is a well-known fact that the waters of Bering Sea at nearly all points, and particularly in that zone, from 20 to 60 miles south of the Pribilof Group abound in eod. The presumption is well grounded that the old male, at least, made good use of his opportunity in the off season, for he leaves the islands in August, after an absolute fast of three to four months, very lank and lean, and again takes his place upon the breeding grounds in April or May well rounded out with a thick envelope of blubber.

I have seen the stomachs of several seals after they were killed and they contained only pieces of fish, which seemed to be their sole food. I do not know whether they *T. F. Ryan, p. 175.* eat kelp or not.

Their food is mainly fish, and they are naturally found where that is most abundant. Seal-hunters say and statistics show that where fish are most plentiful, as in latitude 55° to 56° north, in Bering Sea, on the Shumagin Banks off the Alaskan Peninsula, and off the entrance to the Straits of Fuea, there the best catches of seals are made. *C. M. Scammon, p. 475.*

FEEDING EXCURSIONS.

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[See also "Food" and "Pelagic Sealing—Destruction of Nursing Females."]

Have taken females that were full of milk 60 *Peter Anderson, p. 313.* miles from the Pribilof Islands.

I observed that very few seals go out to sea to feed during June, July, and August, except females and some of *Jno. Armstrong, p. 1.* the younger males.

The females go and come after the first few days of their stay at the island. I have seen rookeries, and particularly the one on the reef, plainly in sight from St. Paul village, swarming with pups and comparatively few mothers in sight, and it has sometimes remained so for twenty or thirty hours at a time, convincing me that they must have gone a considerable distance from the islands for food. *Jno. Armstrong, p. 2.*

In four or five days after it is born the mother seal leaves her pup and goes away in the sea to feed. *Kerrick Artomanoff, p. 100.*

Most of the seal taken in Bering Sea by me were cows with milk. Cows with milk have been taken by me 100 miles from the Pribilof Islands. *Wilton C. Bennett, p. 357.*

There is nothing on the beach for the old ones to eat, and they go several miles from the rookeries out to sea to obtain food.
William Brennan, p. 359.

For the first few days, and possibly for a week or even ten days, the female is able to nourish her young or offspring, but she is soon compelled to seek the sea for food, that her voracious young feeder may be properly nourished, and this seems to be permitted on the part of the male, even though under protestation. The whole physical economy of the seal seems to be arranged for alternate feasting and fasting, and it is probable that in the early days of its life the young seal might be amply nourished by such milk as its mother might be able to furnish without herself resorting to the sea for food.
J. Stanley Brown, p. 15.

At the time I was on the islands I do not think there were any fish at all within 3 miles of the islands, and that the seals to feed had to go farther than that from land. This belief is founded on statements made me by natives on the islands, and also from the fact that fresh fish were seldom eaten upon the islands.
S. N. Buynitsky, p. 21.

I have also observed seals, presumably fishing, at distances varying from 10 to 150 miles from the island, and am of the opinion that most of the seals seen at distances more than 10 miles from land during the breeding season are females.
John C. Cantwell, p. 408.

About 80 per cent of theseals I caught in the Bering Sea were mothers in milk, and were feeding around the fishing banks just north of the Aleutian Islands, and I got most of my seals from 50 to 250 miles from the seal islands. I don't think I ever sealed within 25 miles of the Pribylov Islands.
Jas. L. Carthout, p. 409.

We were hunting in the Bering Sea most of the time off Seventy-two and Unamak Pass, and we caught the seals as they were going to and from the Pribilof Islands to feed on the fishing grounds. We caught a great many seals on the fishing banks just north and close by the Aleutian Archipelago.
Chas. Chalall, p. 410.

It is my experience that fully 85 per cent of the seals I took in Bering Sea were females that had given birth to their pups, and their teats would be full of milk. I have caught seals of this kind from 100 to 150 miles away from the Pribilof Islands.
Christ. Clausen, p. 320.

Nearly all the cows are in milk during the months of July and August, while they are out seeking for food, and I have seen mothers with their breasts full of milk killed 100 miles or more from the seal islands. I know they go great distances in search of food.
Peter Collins, p. 413.

After the mother seals have given birth to their young on the islands, she goes to the water to feed and bathe, and I have observed them, not only around the islands, but from 80 to 100 miles out at sea.
W. C. Coulson, p. 416.

In different years the feeding grounds or the location where the greater number of seals are taken by poachers seem to differ; in other words, the seals frequently change feeding grounds. For instance, in 1887, the greatest number of seals were taken by poachers between Unamak, Akatan Passes, and the seal islands, and to the southwestward of St. George Island. In 1889, the catching was largely done to the southward and eastward, in many cases from 50 to 150 miles distant from the seal islands. In the season of 1890, to the southward and southward and westward; also to northwest and northeast of the islands, showing that the seals have been scattered. The season of 1891, the greatest number were taken to northward or westward of St. Paul, and at various distances from 25 to 150 miles away.

I have seen seals in the waters of Bering Sea distant 100 miles or more from the islands at various times between the first of July and October. These seals were doubtless in search of food, which consists, according to my observations, of fish, squid, crustaceans, and even mollusks.

W. H. Dall, p. 23.

Most of the seals taken in Bering Sea are females. Have taken them 70 miles from the islands that were full of milk.

George Dishow, p. 323.

We entered the Bering Sea about the latter part of April, and got over 800 seals in there, most of them being females in milk, and we killed them from 20 to 100 miles off the seal islands. I saw the milk running on the deck when we were skinning them; that was the only way I could tell they were females.

Richard Dolan, p. 419.

I also found that females after giving birth to their young at the rookeries seek the codfish banks at various points at a distance of from 40 to 125 miles from the islands for food, and are frequently absent one or more days at a time, when they return to find their young.

Jas. M. Douglas, p. 420.

We entered the Bering Sea May 25th and we got 703 seals in there, the greater quantity of which were females with their breasts full of milk, a fact which I know by reason of having seen the milk flow on the deck when they were being skinned.

Geo. Fairchild, p. 423.

We caught them from 10 to 50 miles off the seal islands.

After the fertilization she is allowed to go to and from the water at will, in search of food, which she must obtain so she can nurse her pup. She goes on these feeding excursions sometimes, I believe, 40 or more miles from the islands, and, as she swims with great rapidity, covers the distance in a short time. She may go much farther, for I have known a cow to be absent from her pup for two days, leaving it without nourishment for this period. This shows how tenacious of life a young seal is and how long it can live without sustenance of any sort.

Sam'l. Falconer, p. 165.

After the pup is a few days old the cow goes into the sea to feed and at first she will only stay away for a few hours, but as the pup grows stronger she will stay away more and more until she will sometimes be away for a week.

Jno. Fratis, p. 108.

Wm. Frazer, p. 427. We killed females giving milk more than 100 miles from the seal islands.

John Fyfe, p. 429. We killed some of them from 50 to 100 miles off the seal islands, and were very tame.

Chad. George, p. 366. Have killed seals 200 miles from the Pribilof Islands that were full of milk.

Thos. Gibson, p. 432. I have killed mother seals in milk from 40 to 100 miles off the seal islands.

During the entire sealing season males of all classes remain on the islands, except that the bachelors once in a while go into the water, but remain in the vicinity of the islands. The females, on the contrary, are going and coming to and from the water for the purpose of feeding. I believe it is while the females are thus going to and from the feeding grounds and through the Aleutian passes that they are intercepted and shot by open-sea sealers.

I have also learned by conversation with Bering Sea hunters that they kill seal cows 20 to 200 miles from the breeding grounds and that these cows had recently given birth to young. I have observed in the skins that the size of the teats shows either an advanced state of pregnancy or of recent delivery of young.

Arthur Griffin, p. 326. Those they shoot. We captured females in milk from 20 to 100 miles from the rookeries.

James Griffin, p. 433. Have killed female seal 90 miles from the seal islands that were full of milk.

Majority of the seals taken in Bering Sea are females with milk in them. Have killed them full of milk 100 miles from the seal islands.

We entered the Bering Sea about the 1st of June, and caught about 200 seals in those waters. They were mostly mothers that had given birth to their young and were around the fishing banks feeding.

Most of the seals killed on the coast are pregnant females, while those we killed in the Bering Sea after the 1st of July were females that had given birth to their young on the seal islands and come out into the sea to feed. Have caught them 150 miles off from the shore of the seal islands, and have skinned them when their breasts were full of milk. Seals travel very fast and go a long way to feed.

It is known and currently believed among the natives of the seal islands, and also among the employes of the sealing company, past and present, that the mother seal will go great distances and be gone for long periods of time in quest of food. Such is also my observation and belief.

W. S. Hereford, p. 34.

In fact it is a common thing to see squads or herds going out and coming in at various times during the day. Food around the immediate vicinity of the seal islands is at the best of times scarce, and as the rookeries increase in the number of their occupants it becomes necessary for them each day to go farther and farther. Distance, however, is no particular object to them, as they are very speedy travelers.

After the young is a few days old the mother travels out to the fishing banks to feed. *Wm. Hermann, p. 446.*

I observe that nursing cows range from 60 to 80 miles from the Pribilof Islands to feed, and were always most numerous in a southerly and westerly direction from them. *Norman Hodgson, p. 367.*

The majority of seals killed in Bering Sea are females. I have killed female seals 75 miles from the islands, that were full of milk. *J. Johnson, p. 331.*

I think many of the mother seals go from their breeding grounds on the islands many miles into the Pacific Ocean in search of food, often to a distance of 150 to 180 miles. They travel very fast, and it is on these excursions that many of them are killed. *Jas. Kiernan, p. 450.*

Soon after a cow brings forth her young she goes into the water to get food. I know from actual observation that they go at least 20 miles from the islands, but how much farther I am unable to state. *Louis Kimmel, p. 174.*

As soon as the pups are a few days old the cows go into the sea to feed and they stay out a little longer every time they go until they will be away for a week at a time. *Nicoli Krukoff, p. 133.*

When the cow goes into the sea for food her stay there becomes longer and longer as the season advances, until at times she will be away for three or four days at a time. *Aggei Kushen, p. 129.*

In the Bering Sea I have noticed that in skinning seals milk would run out of the teats of females who had given birth recently to their young on the islands. I have caught this class of females from 75 to 100 miles from the Pribilof Islands. *Andrew Laing, p. 335.*

In killing seals in the Bering Sea, during the months of June, July, August, and September, I noticed that a large number of them were females and mothers giving milk. I have killed mothers in milk all the way from 10 to 200 miles off shore. *Wm. H. Long, p. 458.*

In 1889 I hunted in the Bering Sea from 80 to 100 miles off the Pribilof Islands. Two-thirds of fur catch were cows in milk. *Thos. Lowe, p. 371.*

We went into the Bering Sea about the 26th or 28th of June, and while in there we caught 389 seals, nearly all of which were mother seals in milk, which fact I know from seeing the milk flow on the deck while we were skinning them. We took them a good ways from the island, but do not know how many miles.

Thos. Lyons, p. 460.

When the pups are a few days old the mothers leave them (generally soon after coitus upon the rookeries with the old male) to go to the feeding grounds, returning at intervals of one to three or four days to suckle their young.

H. H. McIntyre, p. 41.

We sailed from Victoria in June and went due north, and commenced sealing in the Bering Sea, catching about 400 seals. We hunted around the islands there, from 50 to 60 miles offshore. Most of those were females that had given birth to their young and were with milk.

Wm. McLaughlin, p. 462.

Q. How far from the islands have you killed those mother seals that were in milk?—A. I have killed them as far off as 150 miles off the land.

Alex. McLean, p. 438.

Q. Is that in the Pacific or Bering Sea?—A. Both in the Pacific and Bering Sea.

Q. They were evidently the mothers that had young?—A. Yes, sir; they had their young. Some of the seals had left their young on the islands and were going away, and were through with them or going to feed. Sometimes a seal goes a long way off the island at a certain time. It depends where the feed is. A seal does not think very much of traveling 100 miles; they travel very fast when they want to.

Q. Did you ever kill any cow seals that were in milk that had given birth to young and were in milk?—A. Yes, sir; I have in Bering Sea.

Dan'l McLean, p. 444.

Q. How far from the seal islands were they?—A. Sixty miles; all the way from 20 to 60 miles; off St. George and St. Paul.

It may safely be asserted that over three-fourths of the catch of forty-eight were cows in milk. This, at a distance of 200 miles from the rookeries, shows that the nursing cows ramble all over the Bering Sea in search of their chief food, the codfish, which are to be found on the banks along the coast of the Aleutian Islands. During the migratory journey north in the spring the cows with young become the easiest victims to the hunter, owing to being more fatigued, and consequently sleep more than other class of seals. From all information I could glean from the skipper, when I pointed out the circumstance of cows in milk being killed so far from the islands, leads me to understand that had the cruise of the *Otto* been a month or six weeks earlier, the proportion of nursing cows in a catch would be still greater than that herein exhibited.

Robert H. McManus p. 338.

Each year we would enter the Bering Sea about June, and we sealed from 50 to 150 miles from the islands. The first year we caught about 700 seals in the sea, and we caught very big catches in 1888 and 1889, but

Thos. Madden, p. 463.

last year we only caught 150. Most of them were cow seals, having given birth to their young, and their breasts had milk in them. I saw the milk running out of their breasts on the deck as they were being skinned.

When the pup is a few days old the cow goes into the sea to feed, and as the pup grows older the cow will stay longer and longer, until sometimes she will be away for a week. My opinion, therefore, is that none but the mother seals go out in the sea to eat during the time the herds are on the islands, and this accounts for the great number of cows shot by the sealing schooners in Bering Sea during July, August, and September. *Anton Meloredoff, p. 144.*

The young males or bachelors that are killed for skins are found to be full of food in May and early in June, but their stomachs are empty when killed in July or later. This shows, I think, that none go out to feed in the sea except the cows during the time they are nursing their young. *Simeon Melovidov, p. 146.*

Have killed seals 250 miles from the Pribilof Island, with milk. *G. E. Miner, p. 466.*

After birth a pup at once begins to suckle its mother, who leaves its offspring only to go into the water for food, which I believe from my observation consists mainly of fish, squids, and crustaceans. In her search for food the female, in my opinion, goes 40 miles or even farther from the islands. *T. F. Morgan, p. 62.*

The bachelors while on the islands, in my opinion, feed very little, and practically it is only the female seals which feed while located on the islands. The speed of a seal when swimming is very great, covering, I should say, from 10 to 15 miles an hour. Therefore a female can easily go to the feeding grounds and return to the islands in a day; and that so far as I am able to ascertain the foregoing facts are practically corroborated by all those who have had the opportunity to study or observe seal life on the Pribilof Islands and in Bering Sea.

They sometimes go out from 100 to 200 miles off the islands, while the young ones still remain on the islands. After they have been on the islands they contain no pup, so the hunter can see if the seal has been on the islands or not. I have killed, and seen killed, mothers in milk 100 or more miles from the islands. *Niles Nelson, p. 470.*

During these journeys, in my opinion, she goes a distance of from 40 to 200 miles from the islands to feed; and it is at this time she falls a prey to the pelagic hunter. *L. A. Noyes, p. 82.*

In my opinion, the cows are the only seals that go into the sea to feed from the time they haul out in May till they leave the islands in November or December; and my opinion is based on the fact that the seals killed in May have plenty of food in their stomachs, mostly codfish, while those killed in July have no signs of anything like food in their stomachs.

Again, the males killed for food as the season advances are found to be poorer and poorer, and in all cases after July their stomachs are

empty. I am convinced, therefore, that none but mother seals go into the sea to feed during the summer months, and this accounts for the sudden decrease in the herd after the sealing schooners became so numerous in Bering Sea about 1884.

John Olsen, p. 471.

We caught these mothers, full of milk, from 50 to 150 miles off the seal islands. I shot twenty-eight myself.

When the pup is from 4 to 6 days old, the mother goes into the water for food and, as time passes, her stay becomes longer, until finally she will be away from her pup for several days at a time, and sometimes for a whole week. During these longer migrations she often goes 200 miles from the rookery, and I have been informed by men who were engaged in the trade of pelagic hunting that they had taken "mothers in milk" at a distance of over 200 miles from the seal islands.

The cows, however, eat, and sometimes go 60 miles to get food, and perhaps farther. Old experienced poachers informed me that they remained that distance from the islands to capture the seals when they came to feed.

Sometimes we opened them and found young pups inside, and sometimes they were mothers that had given birth to their young and their breasts were full of milk, and we often killed them 100 miles or more from the seal islands.

The cows, however, go and come at will after the pups are dropped, and may be found in large numbers with the mammary glands distended with milk many miles from the breeding grounds.

Of the females taken in Bering Sea nearly all are in milk, and I have seen, the milk come from the carcasses of dead females lying on the decks of sealing vessels which were more than 100 miles from the Pribilof Islands. From this fact, and from the further fact that I have seen seals in the water over 150 miles from the islands during the summer, I am convinced that the female, after giving birth to her young on the rookeries, goes at least 150 miles, in many cases, from the islands in search of food.

Wm. H. Smith, p. 478.

Have taken female seals in Bering Sea about 145 miles from the Pribilof Islands.

Seals killed in Bering Sea after the birth of the pups are largely mother seals, and the farther they are found from the islands the greater the percentage will be. The reason for this seeming paradox is very simple. The young males, having no family responsibilities, can afford to hunt nearer home, where food can be found if sufficient time is devoted to the search. The mother does not leave her young except when necessity compels her to seek food for its sustenance. She can

Z. L. Tanner, p. 374.

not afford to waste time on feeding grounds already occupied by younger and more active feeders; hence she makes the best of her way to richer fields, farther away, gorges herself with food, then seeks rest and a quiet nap on the surface. Under these conditions she sleeps soundly, and becomes an easy victim to the watchful hunter.

Those we killed in the Bering Sea were mostly females in milk. We never went nearer to the islands than between 25 and 30 miles. We killed most of them while they were going to or returning from the fishing banks. *Adolph W. Thompson, p. 486.*

The mother seals go out to sea to feed soon after giving birth to their young, and return at intervals of from a few hours to several days to suckle and nourish their young. *Daniel Webster, p. 180.*

I have never hunted within 15 miles of the Pribilof Islands; but I have often killed seals in milk at distances of not less than 100 to 200 miles from these islands. *Michael White, p. 490.*

The mother seals, while rearing their young on the Pribilof Islands during the months of July, August, September, and October of each year, leave the islands and go out to sea to feed, returning at intervals to give nourishment to their young. That they traveled long distances in pursuit of food at these times is a well-known fact and substantiated by the statements of reputable persons who have been on sealing vessels and seen them killed 200 miles or more from the islands and who say they have seen the decks of vessels slippery with milk flowing from the carcasses of the dead females. *W. H. Williams, p. 94.*

SPEED IN SWIMMING.

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[See also "Feeding Excursions."]

By my observation I am convinced that a seal can swim more rapidly than any species of fish, and I believe that a female could leave the islands, go to a fishing ground 100 miles distant and easily return the same day. I think seals can without difficulty swim 10, 15, or even 20 miles an hour for several hours at a time. *Chas. Bryant, p. 6.*

Food around the immediate vicinity of the seal islands is at the best of times scarce, and as the rookeries increase in the number of their occupants it becomes necessary for them each day to go farther and farther. Distance, however, is no particular object to them, as they are very speedy travelers. *W. S. Hereford, p. 34.*

DEPARTURE FROM THE ISLANDS.

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And commence leaving in October, and but few are found on the islands as late as December, unless it should be a mild winter. *C. L. Fowler, p. 25.*

- Jno. Fratis, p. 108.* The cows and bachelors begin to leave in October and November, but their going is regulated somewhat by the weather.

THE BACHELORS.

ARRIVAL AT THE ISLANDS.

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- Jno. Armstrong, p. 2.* The large bachelor seals arrive on the islands from the 1st to the 15th of June each year, sleek and fat as they can be.
- K. Artomanoff, p. 100.* Male seals from 2 to 6 years old do not go on the breeding rookeries, but haul out by themselves.
- Between the arrivals of bulls and females, but rather closely following the bulls, come the bachelors; those immature young males which furnish the skins of commerce. *J. Stanley Brown, p. 13.* The natives after the long winter are eager for fresh meat, and it is usually possible to make drives of them for food not later than May 15, and sometimes from a week to ten days earlier.
- Ruth Burdukofskiet al., p. 206.* The latter part of March came the "hollus-chickie," or younger bachelor seals; these in turn were followed by smaller males.
- The young male seals from 1 to 5 years of age, called "bachelors," come about the same time as the females, but do not go onto the breeding rookeries, evidently fearing the old bulls. These bachelors haul up by themselves on narrow places along the shore left between the breeding rookeries, and from these points proceed inland much farther than the breeding rookeries. *S. N. Buynitsky, p. 21.*
- Geo. Comer, p. 598 (Antarctic).* The young "wigs" or nonbreeding males, not being allowed on the rookeries, herd by themselves, and never molest the harems.

The young male seals from 2 to 5 years old come in May or June and haul out by themselves; the older ones usually come first. *C. L. Fowler, p. 25.*

- John Fratis, p. 108.* The bachelors come in May, the older ones first, and they continue coming till July, when the younger ones arrive.

The bachelors, or young males, began to arrive about the same time as the cows. The bachelors try to land on the breeding rookeries occupied by the bulls, but are driven off by the older males and are compelled to herd together by themselves separately from the bulls and cows. *Louis Kimmel, p. 173.*

Then the oldest of the bachelors come, after the bulls, and they keep coming till July, and they haul out by themselves on the hauling grounds; and the bulls and cows go together on the breeding rookeries. If the bachelors went on the breeding rookeries the bulls would kill them. *Nicoli Krukoff, p. 133.*

About the middle of May the young males begin to haul out, but are driven off by the bulls, who would tear them to pieces if they went on the breeding rookeries. Consequently the bachelors haul out by themselves and are easily surrounded and driven into the killing ground without disturbing the breeding rookery. *Aggei Kushen, p. 129.*

The bachelors commence to haul out in May, and they haul out till late in July, the older ones coming early and the younger ones later. *Anton Melovedoff, p. 144.*

The young males, or bachelors, whose skins are taken by the lessees, begin to haul out in May, and they continue to haul out until late in July, the older ones coming first and the younger ones later; and they herd by themselves during May, June, and July, because were they to approach the breeding grounds the bulls would drive them off or destroy them. *L. A. Noyes, p. 82.*

The young males, or bachelor seals [begin to appear], about the same time [June 1]. *Thomas F. Ryan, p. 174.*

THE KILLABLE CLASS.

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(See "The Killable Class," under "Management of the Seal Rookeries.")

FEEDING.

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[See also "The Cows.—Feeding Excursions."]

The greater part of the older bachelors appear to be always about the rookeries after the cows come. *John Armstrong, p. 1.*

While the same seals [large bachelors] in September are very thin in flesh, or in about the same condition as the bull seals then are, which, it is well known, do not leave the rookeries for some four months, on the other hand, the yearlings and 2-year-olds remain in good condition the entire season, and must, I think, go off to the feeding grounds occasionally during the summer. *John Armstrong, p. 2.*

The "Holluschickie" (bachelors) do not go out to feed. When they come in May there is plenty of fish in their stomachs, but after June there is nothing. *Karp Buterin, p. 103.*

Young "wigs" go into the water, but during the breeding season hang around the rookeries, never going far from shore. *Geo. Comer, p. 598 (Antarctic).*

I have also observed that the male seals killed soon after they come to the islands are fat and their stomachs filled with food, while those killed in the latter part of the season are poor and lean and without food in their stomachs.

C. L. Fowler, p. 26.

I do not think the bachelors go to feed from the time they haul out until they leave the islands in November, for I have observed the males killed in May are fat and their stomachs full of fish, mostly codfish, while the males killed in July and afterwards are poorer and poorer and their stomachs are empty.

Jno. Fratis, p. 108.

Of the stomachs of the killable seals, I may say that there is no degree of regularity in what may be found in them; perhaps oftener nothing, many times a few worms, frequently a few small stones, sometimes a quantity of pea-soup-looking fluid, the result of the process of digestion, while some may contain the remains of fish bones, kelp, etc.

W. S. Hereford, p. 35.

I think the bachelors do not eat from the time they arrive till they go away, and I think so because the seals killed in May and early June are fat and have plenty of food in their stomachs, while those killed later than June are poor and their stomachs are empty, and they get poorer and poorer until they go off in November.

Nicoli Krukoff, p. 133.

And I have found that the seals killed in May and early June were fat and that their stomachs were full of food, principally codfish, and that later in the season they were poor and had nothing in their stomachs.

Anton Melovedoff, p. 144.

Young males killed in May and June when examined are found to be in prime condition, and their stomachs are filled with fish—principally codfish—but those killed later in the season are found to be poor and lean and their stomachs empty, which shows that the males rarely leave the islands for food during the summer months.

J. C. Redpath, p. 149.

I have observed that the male seals taken in the forepart of the season, or within a few days after their arrival at the islands, are fat and their stomachs contain quantities of undigested fish (mostly cod), while the stomachs of those killed in the latter part of the season are empty; and they diminish in flesh until they leave the islands late in the season. I am of the opinion that while the female often goes long distances to feed while giving nourishment to her young, the male seals of two years old and over seldom, if ever, leave the islands for that purpose until they start on their migration southward.

Dan'l Webster, p. 180.

MINGLING WITH THE COWS.

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From my observation as to the vitality of male seals I believe that it is difficult to determine with absolute accuracy the capacity of the bull seal for rookery service, as it must in large measure depend upon the per-

J. Stanley Brown, p. 14.

sonal equation of the individual; but I am nevertheless of the opinion that a conservative estimate would be that he could serve without difficulty at least one cow per day during his stay upon the rookery. Possibly the best results would not be achieved thereby, but this capacity, taken in connection with the fact that young males persistently seek their opportunities upon the rookery margins and at the water's edge during the entire season, leaves no doubt in my mind that no breeding female leaves the island unimpregnated.

Up to the 20th of July the breeding grounds present a compact, orderly arrangement of harems; but, under the combined influence of the completion of the serving of the females and the wandering of the pups, disintegration begun at that date rapidly progresses. It is at this time that the virgin cows of 2 years of age, or not older than 3, mingle more freely with the females and probably enter the maternal ranks, for the unsuccessful males and maturer bachelors, no longer deterred by the old males, also freely wander over the breeding grounds.

J. Stanley Brown, p. 16.

DEPARTURE FROM THE ISLANDS.

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And they (the bachelors) remain on or about the islands until the inclemency of the weather compels them to leave, which is usually late in the fall or early winter. Occasionally some remain till late in January.

C. L. Fowler, p. 25.

The bachelors, cows, and pups go in November, the older bachelors leaving late in October and the pups in November. Sometimes in good, mild weather bachelors are found and killed for food late in January.

Anton Melovedoff, p. 144.

MIGRATION OF THE HERD.

CAUSES.

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All the seals, when they leave the island, go off south, but I think they would stay around here all winter if the weather was not so cold.

Kerrick Artomanoff, p. 100.

The greater part of the seals that we find in the North Pacific Ocean are born on the islands in Bering Sea. Most of them leave there in October and November. If the weather is mild they stay longer, but when the snow falls they leave the rookery and take to the water. Here they swim around for some days, and if it grows milder and the snow melts a great many will haul up again, but if the weather remains very cold all leave and start for the south.

William Brennan, p. 358.

The time they* leave the islands is generally the middle of November, but the weather is the true mark of such departure, they seeming to be unwilling to stay after the first snow or sleet comes. On departing from

Chas. Bryant, p. 5.

* The pups.

their island home they proceed southward through the Aleutian passes, the majority going through or to the eastward of the pass of longitude 172°. The cause of their departure is doubtless the approach of cold weather and the lack of sufficient food.

Providing the conditions were the same on the islands the year round as they are in the summer, and providing the food supply was sufficient in the immediate vicinity of the islands, I think the seals would remain on or about the islands during the entire year. The seals evidently consider these islands their home and only leave them by reason of lack of food and inclement weather. Some seals remain about the islands until the first of January, and the winters of 1874 and 1875 being exceptionally mild, seals remained on or in the vicinity of the islands during the whole year.

The seals leave the rookeries in March when ice begins to form around the islands and the snow commences to fall. The
Jas. W. Budington, p. 596 (Antarctic). Terra del Fuego and Patagonian seals, however, never leave the rookeries or the waters in the vicinity, only going out into the inland waters in search of food. About Terra del Fuego no ice forms and no snow falls that remains. The temperature remains about the same summer and winter. I think if ice formed there and there was much change in the temperature the seals would migrate northward to warmer waters.

The seals inhabiting these shores do not migrate, but always remain on or near the land, only going a short distance
Geo. Comer, p. 597 (Antarctic). in search of food, and at all seasons and in every month of the year seals can be found on shore.

I am of the opinion that, provided the weather remained the same the year round as it is in the summer, that the
Sam'l Falconer, p. 165. seal herd would stay in the vicinity of the Pribilof Islands during the entire year, for the seal evidently considers these islands its sole home. The cause of leaving is, as I believe, the approach of cold weather, with snow and ice, and perhaps a lack of food supply.

Cold stormy weather, with sudden heavy frost, will drive them off sooner, so that the islands will be deserted by
Jno. Fratis, p. 108. December 15, while warm weather will keep plenty of bachelors here until late in January, when I have known them to be driven and killed for food.

I think the duration of the winter season has a direct bearing on the northward migration of the fur-seal species, as I
Norman Hodgson, p. 366. have observed that they move that way earlier after an open winter than an unusually severe one.

Q. Judging by the direction that seals were traveling during your experience, where do you suppose was their destination?—A. I couldn't say as to that; I know they traveled southward to a more milder climate.
Andrew J. Hoffman, p. 447.

The climate and food supply undoubtedly control the migration of the seals as they do other animals. The old males being hardier and stronger can withstand the climate and secure food under conditions that would be unendurable for females and young. Male seals remain upon and around the islands until the ice appears. The natives say the codfish also disappears with the first appearance of ice. Many of these males, I believe, remain upon the fishing banks in Bering Sea during the rest of the winter. Some of them go to the banks outside of the Aleutian chain, and others to the banks farther east.

The fur seal belonging to this island [Guadelupe.] does not migrate, the climate being sufficiently uniform all the year round to make it unnecessary for them to do so.

C. L. Hooper, Vol. I, p. 504.

Isaac Liebes, p. 515.

The movements of the seals are governed quite considerably by the weather.

Anton Meloviddoff, p. 144.

Early in November, convoyed by the older seals, the pups leave the island and go to the southward, apparently moved thereto not only by migratory instincts, but because the weather at the islands at this time becomes unendurably severe for them, and perhaps for the further reason that a sufficient food supply for all can not be found in the immediate vicinity of the islands. But the inference is reasonable that they prefer to stay upon or near the islands at this time, from the fact that as long as the weather is comfortable the pups and nonbreeding seals may always be found there in large numbers; and even after snow falls and severe weather has been recorded, the nonbreeding males, upon the recurrence of milder weather, again resort to land, and have, within the time of my connection with the business, been repeatedly captured upon the islands in considerable numbers in December and January. Without the data at hand from which to absolutely verify my statement, I think I am correct in saying that this class of animals remained in the vicinity of the islands throughout three of the twenty years from 1870 to 1890, and more or less of them were killed on shore in every month.

I believe all classes of seals would remain constantly about the islands if conditions of climate and food supply were favorable to their doing so.

On the approach of inclement and wintry weather the seals migrate to find places where food is abundant and where the climatic conditions suit them best; but it is notable that they are governed in this solely by consideration of their own comfort and convenience, and not by any fixed or even approximate time.

H. W. McIntyre, p. 136.

Indeed, so well are the people of the islands aware of their habits in this respect, that they carefully watch for the approach of ice or of severe storms from the northwest before taking their supply of seals for winter food.

I have seen many seals upon the Island each month in the year, with a possible exception of the month of March; and I have been informed that, since I left the service, seals have been seen and captured on shore in this month also.

The time of their * departure depends a good deal on the state of the weather; if the winter is open, they may be found much later upon the islands, and if particularly warm, seals may be found during the whole winter upon and about the islands. Probably, too, they are induced to leave the islands in pursuit of food. In my opinion, if the islands were a little warmer in winter and not surrounded by ice, the seals would remain there the year round, as they evidently consider the Pribilof group their home.

The seal life seems reluctant to depart from the islands, and does not entirely disappear before December or January; while indeed, if the winter be an open and mild one, some of the old males will not depart at all. *J. M. Morton, p. 67.* The seals are undoubtedly driven from the island by the severe winter climate of Bering Sea and the necessity of seeking food. Were it not for these facts, I should be unable to conceive of any reason for their migration.

They do not migrate, but may be found on and about the islands at all times of year. With this exception their habits do not vary, as far as I know, from those of fur-seals in Alaskan waters. *Chas. W. Reed, p. 472.*

The fur seals of the north, unlike the hair seals, do not seem to like the severe cold weather and ice of the north, for they migrate to the southward upon its approach, while those inhabiting the tropics, as at the Galapagos Islands, leave the islands perhaps, but do not go, so far as is known, to any great distance. *C. M. Scammon, p. 475.*

Fur-seals first appear off the coast of the mainland, in the neighborhood of Port Etches, early in the month of April, providing the winter has been one of average duration. I believe the severity of the winter season has a direct bearing on the time of the movement northward of the fur-seals, as I have observed that if it has been an open one, they appear at an earlier date; while after an unusually severe one the seals are later in making their appearance. *J. W. Smith, p. 233.*

THE COURSE.

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Our occupation does not take us below the entrance to Cooks Inlet, in a line from Cape Elizabeth on the peninsula to Cape Douglass on the mainland opposite. In the latter part of June and the first part of July a few straggling fur-seals are seen about the entrance to the inlet, but the actual time of their appearance is uncertain. *Jno. Alexandroff et al., p. 229.*

I usually first fall in with fur-seals off Cooks Inlet about the first of June. *Andrew Anderson, p. 217.*

* The pups.

The main herd of the fur-seals bound for the Pribilof Islands moves through the passes of the Fox Islands of the Aleutian chain, Unimak Pass being the eastern and the Four Mountain Islands Pass the western bounds through which the seals move in large numbers. A few occasionally go through Morzhovoi Pass on their way north, and in the passage south in the fall gray pups often stray into Unalaska Bay as far as Captains Harbor, doubtless thinking it is one of the passes through the group. I never saw a fur-seal in the water between Atka and the island Attu. The natives along the northern shores of Bristol Bay have no knowledge whatever of fur-seals, nor do those of St. Michaels appear to be any better informed. *C. H. Anderson, p. 205.*

The seals first pass into Bering Sea early in May and keep on arriving as late as the latter part of July, but most of them I think enter the sea during the latter part of June or early in July. I do not know at what times they leave, but have observed that it depends on the mildness of the winter how soon they begin to depart. I can not distinguish the sex of seals in the water. Neither do I know the usual times of the arrival and departure of the various categories to and from the seal islands; do not know through which passes the bulls, bachelors, and females usually move; but the westernmost passes are those most frequented by gray pups in the fall on the way south.

Seals are first seen at Prince William Sound about May 1. *N. W. Anderson, p. 223.*

Fur-seals usually appear in the vicinity of Cooks Inlet early in the month of May. *Nicoli Apokche et al., p. 224.*

The fur-seal goes away from the island in the fall or winter and he returns in May or June, and I believe he will haul up in the same place each year, for I particularly noticed some that I could tell hauled up in the same place for a number of years; and when we make drives, those we do not kill, but let go into the water, are all back where we took them from in a few hours. * * *

When they come back to the islands they come from the south, and I think they come from the North Pacific Ocean over the same track that they went. The females go upon the rookeries as soon as they arrive here, but the yearlings do not come on land until the last of July, and yearling males and females herd together. I think they stay in the water the most of the time the first year, but after that they come regularly to the hauling grounds and rookeries, but do not come as early in the season as they do after they are 2 years old. *K. Artomanoff, p. 100.*

I start the season off Yakutat. The first seals are seen about April first. We follow the seals back and forth as schools come along. *Chas. Avery, p. 218.*

Seals are first seen and taken by me each year off Sitka Sound about the middle of April. Have followed them as far north as Cape Edward, where they disappear about June 30. They are constantly on the advance up the coast. *Adam Ayonkee, p. 255.*

Q. When does sealing commence in the Pacific, and when does it end?—A. Sealing practically commences there in January, and it practically ends between the 25th of June and the 5th of July. The latest I ever

Geo. Ball, p. 482.

hunted was about the 5th of July, and with very indifferent success.

Q. When does sealing commence in the Bering Sea, and what date does it end?—A. Sealing commences in the Bering Sea about the 5th of July and ends in November, with heavy weather; that is, it is ended about October or the last of November by reason of the bad weather not permitting any hunting of seals.

Q. Judging by the direction that seals were traveling during your experience, where do you suppose was their destination?—A. In the fall of the year they leave their rookeries and travel to a warmer climate, traveling from 5 miles to 100 miles offshore.

I have first seen and taken seal off Cape Flattery in March; have followed the seal up as far as Bartlett Sound, which they leave about June 1.

Wilton C. Bennett, p. 356.

Edward Benson, p. 277. Have hunted seal in canoes; begin to hunt the last of March and hunt till the middle of June.

I began to take seal off Cape Flattery about March 1. Followed the seal north and entered Bering Sea about July 20.

Martin Benson, p. 405.

The seal are constantly on the move up the coast from the time they first make their appearance off Cape Flattery.

The breeding cows and full-grown bulls leave first, the old bulls perhaps a month or more before the young males and cows. They travel along the coast, following the Japan stream on both sides of the Pacific Ocean, those from the Pribilof Islands on this side, and those from the Commander Island on the Asiatic side. On the American side, some of them travel as far south as Lower California, and on the Asiatic side as far south as Japan and perhaps farther. On the American coast they are found as early as January off southern California, in limited numbers, and are more plentiful farther north later in the season. They gradually work towards the north, and about March are "bunching" off Grays Harbor and the Columbia River, and are found in large numbers a little later about Cape Flattery and Vancouver Island. They are found close inshore to 40 or 50 miles off. After June very few remain along the coast. A few stragglers may be seen about that time; the most of them start in earnest for the rookeries about that time, in the Bering Sea. The cows are at this time heavy with young, and are slow and sluggish.

On the United States Pacific coast and Vancouvers Island, in fine weather, they are found, as I have said, 40 or 50

William Brennan, p. 360.

miles offshore; but during bad weather they approach nearer the coast. On the Japan coast, about November or earlier, depending on the weather, they are seen in great numbers among the islands off the Nemoro group, and I have also seen several off Inneboi-Saki, but do not know whether they are to be found off that coast in the spring or not. Steamers and schooners going north keep close inshore, and in returning too far off to see seals, pro-

vided they travel that coast, as I believe they do, many having been shot off the Kurile Islands in the spring and summer months.

All the seals along the coast go to the Prybilof Islands to breed. The cows leave here in June and the yearlings some time in the middle of July. *Bowa-Chup, p. 376.*

The fur-seals appear off Cape Flattery and in the Straits of San Juan de Fuca about the last of December and go and come until about the middle of June, but yearlings and 2-year olds remain considerably later. *Peter Brown, p. 378.*

From my inquiries and observations I am convinced the seals, after going through the Aleutian passes, seek the vast schools of fishes which, at this season of the year, are to be found in the North Pacific, then following these fishes as they migrate towards the American coast for the purpose of spawning, they appear off the California coast during the early part of the year. The seals then go northward, still following these schools of fish, the males arriving again at Bering Sea in the early part of May and the females in June and July and proceeding at once to their island home. *Charles Bryant, p. 5.*

The young seals are now a year old, and I am of the opinion the sexes herd together. This year they leave the islands a little earlier than the previous season and make the same migration in search of food. Returning again, this time as "two-year-olds," the males go upon the hauling grounds with the bachelor seals and the females land on the breeding rookeries. It is probable that the females of this age are fertilized by the bulls and leave the islands in the fall pregnant.

In the fall of the year, chiefly during November, when the wind coming from northerly directions blow them toward these shores, was the time to go out and capture the young seals. *Ruth Burdukofski et al., p. 206.*

When the wind blew from the southerly directions no pups were to be found. I never saw any older seals with them, and can not say just what time the seals of different ages and sexes go through the passes in this vicinity.

I believe these pups were the weaker ones, who could not follow their mothers, and being temporarily lost were driven by northerly winds into the quieter bays and harbors, and there rested. No old seals ever haul out in this vicinity. Immediately after northerly gales, and before the water has grown so quiet that the young pups can again continue their journey, is the best time for capturing them. There is no regular time about this, it depends on the weather. In late years I have not hunted, but when I did this village caught from 150 to 200 pups. So much depends on the weather that sometimes more and sometimes less are caught. In recent years guns and occasionally fishing nets are used with better results.

Seals appear off this coast the latter part of December, and are gone by the middle of July. Cows appear to leave earlier than the younger ones. *Landis Callapa, p. 379.*

First seen and taken seal by me off the Columbia River in February. The seal are constantly advancing up the coast. We follow the seal up the coast until we enter the sea about July 6. *Chas. Campbell, p. 256.*

In the latter part of June and the first part of July, while engaged in hunting, we have observed fur-seals about the entrance of the inlet,* passing to the westward; but have never seen any above Anchor Point.

Ivan Canetak et al., p. 229.

I usually left San Francisco in February or March of each year and sealed along the coast, following the herd north on their way to their breeding grounds on the Pribylov Islands in the Bering Sea. I usually entered the sea about the 1st of July and came out in September.

Jas. L. Cartheut, p. 409.

During the months of March, April, May, and June the seals in the North Pacific are traveling leisurely towards the passes into Bering Sea.

We generally left San Francisco in March or April, and we sealed along the coast up to Queen Charlotte Sound.

Chas. Chalall, p. 410.

About the middle of April the first seal are seen and taken by me off Sitka Sound. At this time the seals are advancing up the coast.

Simeon Chin-koo-tin, p. 256.

Last year (1891) I hunted for seals at sea. We first met them in the region of Prince William Sound, and followed them to the vicinity of the Barren Islands off Cooks Inlet.

Julius Christiansen, p. 219.

Have first taken seal off Sitka Sound the middle of April. Followed the seal up the coast as far as Yakutat, where they disappeared the last of June.

Peter Church, p. 237.

Seals generally appear off Cape Flattery about the 20th of December.

Jas. Claplanhoo, p. 381.

About the 1st of January seals begin to appear around the cape and slowly make their way north and are gone by the middle of July. The grown cows are the first to go, and leave before the middle of June. Young seals remain to the last.

Have hunted fur-seal nine years in Dixons Entrance and off Prince of Wales Island, in and between March and June. The seal disappear early in June, going north.

Wm. Clark, p. 293.

Q. When does sealing commence in the Pacific and when does it end?—A. Sealing commences in the Pacific about the 1st of January and ends about the 1st of July.

Danl. Claussen, p. 412.

Q. When does sealing commence in the Bering Sea and when does it end?—A. Sealing commences in the Bering Sea about the 1st of July and ends about the last of October.

Q. Judging by the direction that seals were traveling in the spring of the year, during your experience, where do you suppose was their destination?—A. To the rookeries in the Bering Sea.

* Cook.

I have observed that fur-seals first appear in the neighborhood of Cooks Inlet in small schools about the middle of April, coming from the southward, and increase in numbers until the latter part of May, traveling along the coast of the mainland from the eastward to the westward. *M. Cohen, p. 225.*

Upon the approach of winter the seals leave their home, influenced doubtless by the severity of the climate and decrease in the food supply. They go southward, making their way through the passes of the Aleutian chain. In latitude 50° or thereabouts, extending across the Pacific east and west, is a warm current of about 70 or 80 miles in breadth; in this warm water are found fish and crustaceans. This current sets eastward and is somewhat quickened at the approach of spring in harmony with the monsoons of its place of origin. In the spring and fall I have seen seals in these warmer waters, but in August, when I once crossed the current, they were absent. Undoubtedly the seals find there agreeable temperature and sufficient food supply, and, following the eastward set of the current and the migrations of the fish, find their way to the western coast of the United States and, thence turn northward being influenced by the bountiful food supply along the northwest coast, and finally by that route return to their home upon the Pribilof Islands. *W. H. Dall, p. 23.*

The cows seem to disappear from the coast sooner than the young seals do.

The seals first appear off the cape about Christmas, and I have caught young seals as late as July. *Frank Davis, p. 383.*

First found and taken seal off Cape Flattery in January and followed them up the coast into Bering Sea, which they enter about June 20. *George Dishow, p. 323.*

At Afognak, where I was for two years engaged in fur trading, handling skins and furs of all descriptions, I observed that the fur-seals first appear off that part of the coast in small numbers about the latter part of the month of April. They were most numerous towards the middle of June, passing in schools from the eastward to the westward, following general trend of the coast. *John Duff, p. 277.*

The seals appear in the straits of San Juan de Fuca the latter part of December, and are all gone by the middle of July. *Ellabush, p. 385.*

The full-grown cows leave this vicinity for the north earlier than the younger ones do. I catch more young seals in May and June than I do earlier in the season.

A year ago last March I saw a heard of seals of from 500 to 600 just above Cape Mendocino. I have also often met large numbers scattered along the coast of Cape Flattery, generally from 10 to 20 miles offshore. I have never been around the coast from Sitka to Prince William Sound. From what I have seen and heard I believe seals are found from Cape Mendocino up to Cape Flattery in the winter months. In December, *M. C. Erskine, p. 421.*

January, February, and March of the years 1890 and 1891 I was running on regular passenger trips from here to Puget Sound. I frequently saw both seals and hunters. I think the seals commence to leave the coast working their way north in March and April. Two years ago this spring, within 20 or 30 miles off Cape Flattery, west of the coast of Vancouver I sighted one trip five or six sealing schooners.

The seals generally appear in the Bering Sea about the latter part of April. I think, however, their arrival depends a great deal upon the season. The large bachelor seals and the old bulls are the first to enter the sea about April or May, and the cows generally commence to arrive and are seen by thousands in the middle of June.

M. C. Erskine, p. 422.

This seal herd is migratory, leaving the islands in the fall or early winter and returning again the following spring; and it is my opinion that the adult males, called "bulls," return as near as they are able to the same place on the same rookery year after year. In fact the natives pointed out to me one old bull who had returned to the same rock for five years successively.

Saml. Falconer, p. 161.

During June and the first part of July the females and pups go through the Passes, and, entering Bering Sea, again seek the islands. During their second summer the young seals herd together, the females not going upon the breeding grounds. Again in the fall they leave their home on the approach of cold weather and make the second migration south. After this migration the females, now "two-year-olds" or "virgin cows," go on the breeding rookeries, and the young males on the hauling grounds.

I have observed while engaged in hunting sea-otter, that fur-seals first appear off this part of the coast in the vicinity of Cape Elizabeth, about the middle of the month of April, and are most numerous about the middle of June. They move across the mouth of the inlet from the eastward to the westward in schools.

Vassili Feodor, p. 230.

Wm. Foster, p. 220.

The seals appear off Cooks Inlet about May 1st. They appear off Unga about the 1st of June.

I always hunted seals in Dixons Entrance, and off Prince of Wales and Queen Charlotte islands in March and June. The seal disappear in June towards the north.

Frank, p. 294.

There are seal in Dixons Entrance in March, but the wind blows so hard that it is impossible for us to hunt them in canoes. Have always hunted in Dixons Entrance and off Prince of Wales Island during the month of May and June each year. The seal all disappear about the first of June, going north.

Luke Frank, p. 294.

Q. When does sealing commence in the Pacific, and when does it end?—A. Sealing commences in the Pacific about the beginning of February and ends about the 1st of May.

Luther T. Franklin, p. 425.

Q. When does sealing commence in the Bering Sea and what date

does it end?—A. Sealing commences in the Bering Sea about the 1st of May and ends about the last of September.

Q. Judging by the direction that seals were traveling in the spring of the year, during your experience, where do you suppose was their destination?—A. The seal islands and the Bering Sea.

When the seals leave the island they go southward and through the passes of the Aleutian Islands and into the Pacific Ocean. *Jno. Fratis, p. 108.*

Q. When does sealing commence in the Pacific and when does it end?—A. Sealing commences about the 1st of January and ends about the middle of July in the Pacific. *Edward W. Funcke, p. 428.*

Q. Judging by the direction that seals were traveling during your experience, where do you suppose was their destination?—A. Well, they were bound toward the Bering Sea, I should judge.

I have found fur-seals always plentiful in the water, in the spring and early summer, off the Alaskan Peninsula, along the fishing banks, from 20 to 30 miles distant from land, but have seldom seen them at much greater distance than 30 miles. *Frank M. Gaffney, p. 431.*

We first find the seal off Cape Flattery in January. I followed the seal up the coast into Bering Sea, where we arrived the last of June. *Chad George, p. 365.*

Have hunted seal between Sitka and Cross sounds. They first appear about middle of this month* and disappear about the last of June. *James Gondowen, p. 259.*

The seals are found off the coast of California in January of each year, and the sealing fleet goes along with them as they proceed northward, never losing track of them and fishing every good day. By the latter part of June fleet and seals have arrived in the vicinity of the Aleutian Island grasses. Pregnancy is now far advanced, and young ones taken from their dead mother's womb have lived several days on the decks of the ships. Those that I caught last year—the pups, I mean—were thrown overboard. *E. M. Greenleaf, p. 324.*

In the latter part of March a few fur-seal usually first make their appearance in Prince William Sound, and are most plentiful in the latter part of April. They are mostly large males, very few females being taken, and those only towards the close of the season, in the latter part of May. *Nicoli Gregoroff et al., p. 234.*

First seal seen and taken were off Cape Flattery, about April 15, and followed the seal into Bering Sea, where we arrived about July. *Jas. Griffin, p. 433.*

Fur-seals were first met off Cape Flattery as early as the first part of the month of January, and increased in numbers until the early part of June, diminishing again towards the latter part of the month. Their mi- *A. J. Guild, p. 231.*

*April.

gratory movement is from the southward to the northward, following the general trend of the coast line. They first approach the coast en masse about Cape Flattery, but I have known of stragglers being seen as far south as Coos Bay. The vessels in which I sailed followed the seals up the coast of Vancouver Island as far north as Clayoquot Sound, at which point we left them in the latter part of July, owing to their scarcity. Other and larger vessels followed them to a greater distance, generally going up into Bering Sea, and keeping along with the main herds.

Q. Have you any experience as to the habits of the fur-seals?—A.

Not any more than they seemed to emigrate in the winter and go north in the summer. That is all I know of their habits. I have never seen them out of the water.

Q. What time of the year do you generally start out sealing in the Pacific and up to what time do you continue?—A. From the 1st of February, as a general thing, until about June, on the coast. Then we used to go in the Bering Sea. I have not been there for four or five years.

Q. What time of the year are the seals all out of the Pacific, having gone to the Bering Sea?—A. They generally leave in June. You don't see but very few after June.

I do not remember ever having seen a fur-seal in the water between the Four Mountain Islands and Attu Island. The main body of the fur-seal herd bound to and from the Pribilof Islands move through the passes of the Fox Islands, Unimak on the east and the West Pass of Unimak on the west being the limits between which they enter Bering Sea in any number. I do not know through what passes the different categories move or the times of their movements. Rarely see fur-seals in the Pacific between San Francisco and the immediate vicinity of the passes.

Have hunted fur-seal in a canoe. Have had my hunting lodge on Dundas Island and Nicholas Bay, and hunt seal from the last of March to the first of June off Prince of Wales Island, in Dixons Entrance, and Queen Charlotte Sound. They all disappear about June 1 on their way north.

First find and take seal in January off Columbia River. They are then advancing up the coast. We follow them until they enter Bering Sea about July 1st.

Q. Have you any experience as to the habits of the fur-seal?—A. I have been catching a good many of them. I don't know much about their habits. You mean on the coast?

Q. Yes; their general habits of going and coming?—A. Yes, they generally come round on the coast about a week before Christmas and up until about the middle of June, when they leave the coast and go north.

Q. What time of the year do you generally start out sealing in the Pacific, and up to what time do you continue?—A. We start out about New Year's.

Q. What time do you come in again?—A. About the middle of September or October.

Q. What time of the year are the seals practically out of the Pacific, having gone to the Bering Sea?—A. About the middle of June.

Q. When does sealing commence in the Pacific and when does it end?—A. Sealing commences in the Pacific about the 1st of January and ends about the last of June. *Wm. Henson, p. 483.*

Q. When does sealing commence in the Bering Sea and when does it end?—A. It commences in the Bering Sea about the 1st of July and ends about the 1st of November.

Q. Judging by the direction that seals were traveling in the spring of the year during your experience, where do you suppose was their destination?—A. They go north during the spring of the year. *Wm. Henson, p. 484.*

Q. When does sealing commence in the Pacific, and when does it end?—A. Sealing commences there about the 1st of January and ends about the 1st of June. *Andrew J. Hoffman, p. 446.*

Have seen and taken the first seal off the west coast of Vancouver Island in April. The seals then are on the advance up the coast. *E. Hofstad, p. 260.*

In regard to the migration of the seal, from all I have learned I am of the opinion that the seals upon leaving the Pribilof Islands, make their way to the coast of California and Oregon in much less time than is generally supposed. The females and young leave first, commencing in October. The younger males follow, and I am convinced, join and remain with the females until they return to the islands, although it appears that they do not haul out at the same time as the females. We found the females, yearlings, and two-year-olds of both sexes together at all times. I have been told by seal hunters that it is no unusual thing to find a young male keeping watch near a sleeping female; that when but two seals are seen together one is a young male and one a female, and that, if either, it is the female that is asleep. *C. L. Hooper, Vol. 1, p. 503.*

It is well known that many seals, especially males, remain on the islands well into the winter. According to the statement of a hunter who was on board at the time, the British schooner *Borealis*, Hanson, master, raided Southwest rookery on St. Paul Island on the night of November 27, 1891, and took 480 seals, which would indicate that at that time seals were still plentiful on the island.

I visited the Pribilof Islands about January 23, 1886, in command of the revenue steamer *Rush*, and was told that a "drive" had been made the day previous to our arrival and 1,000 seals killed. Quite a large number of seals were on the rookeries at that time—all males I was told. We sailed on that evening January 2 via Puget Sound about January 9. During the passage from Puget Sound to Unimak Pass, after clearing the land we saw fur-seals nearly every day. These were probably some of the last to leave the islands, and were on their way to the American coast in search of food and a milder climate. Those which left earlier were already upon the coast. As shown by the affidavits of the sealers, they begin to take seals on the coast of California in January.

Old bulls are rarely seen south of Cross Sound, while we found them

plentiful and apparently in peaceful possession of a liberal supply of red rockfish about 75 miles off Yakutat.

As the cold weather approaches, the females and young leave Bering Sea, and about two months later appear off the American coast, where they find a genial climate and an abundance of food. They appear on the coast of California and Oregon simultaneously with the smelt and herring. As I previously reported, we learned upon our arrival at Astoria, March 18, that the smelt had come and gone; that they were unusually early this year. We were told by the sealers off the coast at that time, and our observations confirmed it, that the seals were moving north unusually early. On the coast of Alaska in April and May, when according to our observations and the testimony of the Indians seals are most plentiful, we found the bays filled with herring, smelt, and eulachon.

The seals commence to appear in the Straits of San Juan de Fuca about the 1st of January or the last of December

Alfred Irving, p. 386.

and come and go to the middle of July. The general course seemed to be to the north, and by the middle of June the grown cows were most all gone, but the younger ones used to be quite plentiful until about the middle of July, when they would also disappear.

Q. What time of the year do you generally start out sealing in the Pacific and up to what time do you continue?—

Gustave Isaacson, p. 439. A. In the middle January or February.

Q. What time of the year are the seals all out of the Pacific, having gone to the Bering Sea?—A. About the latter part of June.

Q. What time of the year do you generally start out sealing in the Pacific, and up to what time do you continue?—A.

Frank Johnson, p. 441. From the latter part of January, generally, until the latter part of September; the middle of September.

Q. What time of the year are the seals practically out of the Pacific, having gone to the Bering Sea?—A. I always found them very scarce in the latter part of June.

Selwish Johnson, p. 389. Seals appear off Cape Flattery in December and January and nearly all of them are gone by the first of July.

The seals first make their appearance about the middle of April off Sitka Sound, and disappear about July 1. They are then on their way up the coast.

P. Kahiktday, p. 262.

Do not know where the old bulls spend the winter, and do not know the routes the fur-seal herds take in their migrations to and from the Commander and Pribilof islands; neither do I think the two herds come near enough together in these latitudes to mix.

Saml. Kahoarof, p. 214.

P. Kashevaroff, p. 261. First seal were seen off Sitka Sound in May by me. We followed the seals as far as Sand Point on Unger Island.

In the winter time some young seal frequent *P. Kashevaroff*, p. 262. the inside passage.

Have always hunted them in Dixons Entrance and off Princee of Wales Island between March and June. Hunt them until the last of May, when the seal disappear, going north. *King Kaskwa*, p. 295.

Always hunted in Dixons Entrance and off Princee of Wales Islands in May and June. In June the seal all go up north. They come in March, but it is too stormy to hunt them. *Jim Kasookh*, p. 296.

Have first seen seal off Sitka Sound about April 15. They all disappear by the last of June. *Mike Kethusduck*, p. 262.

I usually commence the voyage near the coast of California in the early part of January and continue along up the coast, following the herd on its way to its breeding grounds until the latter part of June, hunting all the way and entering Bering Sea about the 1st of July, and remaining in those waters until about the 10th or 15th of September. *Jas. Kiernan*, p. 450.

Have hunted fur-seal for twelve seasons off Princee of Wales Island. Have always hunted seal a month and a half before the small birds hatch, and they hatch about June 1. The seal all go north about this time. *Jas. Klonacket*, p. 283.

Have hunted fur-seal for three years in Dixons Entrance and off Princee of Wales Island in the month of May. The seal all leave there by the first of June; think they go north. *Robert Kooko*, p. 296.

Fur-seals usually first appear in Princee William Sound in large schools, early in the month of April. *Frank Korth* p. 235.

The most of the bulls leave the island in September, and the cows in the last of October and early in November, and the pups leave in November; sometimes when the weather is warm a few seals remain until January at Northeast Point and on "Sea Lion Rock."

In 1890 we killed seals at both places late in January, and we seen seals on Sea Lion Rock in January, 1892. I have noticed that the seals go off south as soon as the beach becomes icy, and when the land is surrounded by drift ice the seals disappear entirely. I do not know where the seals go to when they leave the island, but I do think they come back to the same rookery every year. *Jacob Kotchooten*, p. 131.

First seen and taken seal off Sitka Sound; about the middle of April each year they make their appearance. They are then working northward and westward. *Jno. Kowincet*, p. 264.

At this village we see no seals in the spring, but late in the fall, in late October, we go out in our bidarkas and catch with spears and sometimes guns the young pups which were born on the seal islands in the sum- *Ivan Krukoff*, p. 205.

mer and are now going south. We do not use nets. There are no old seals with these pups; they are the young pups that are driven in by the strong north winds. We go out as far as the cape at the mouth of Makushin Bay and find the pups here and there; they are never together in great numbers.

When the seals leave the islands they go to the southward, and when they come back in the spring they come from that direction. The bulls begin to leave the island about the middle of August, and most of them are gone by the middle of September. The cows and bachelors leave in November and the pups follow or go with the cows. When the weather is good a number of seals will cling to the beach or remain in the wafer around the rookeries until December and sometimes until late in January.

Have always hunted off Sitka Sound. The seals generally make their appearance about April 15 of each year. They are then advancing up the coast and disappear entirely about July 1.

In the Victoria vessels we started in to hunt fur-seals off Cape Flattery in February both years, following the seals along the coast as far as the Fair Weather ground. In the American vessels hunting began at Sand Point in June, and, working on with the main herd from that vicinity, we followed the seals through Unimak Pass into Bering Sea.

We left Vancouver Island on the 1st of June, and on the 9th of the same month, when off Baranoff Island, put over the hunting canoes for the first time. We stayed with the main herd of the seals until the 26th of June, following them along the coast to the vicinity of Cape St. Elias, where we left them and stood across to the entrance to Akutan Pass, occasionally taking a few fur-seals.

Sealing operations were resumed on July 18 to the southward of the Fox Islands, and on the 23d we entered Bering Sea, where we remained fourteen days, at the end of that time returning to Vancouver Island, which was reached on the 28th of August.

The vessels leave port, the most of them going out either from Victoria or San Francisco in the early spring, and commence their season's work off Cape Flattery in April or the early part of May. They then follow the seals upon their northward passage towards Bering Sea and finally, in June or early in July, into those waters, killing every animal possible as they go. They formerly commenced their voyages still further south along the California coast, but as seals have become scarcer, they do not, in the last year or two, get many south of the Oregon coast.

The first seals appear in the strait and on the coast about the last of December and feed along the coast, and seem to be working slowly to the north, until about the middle of June, at which time the cows are pretty much all gone, but the smaller seals remain until the middle of July.

I seldom see an old bull, and when I do he is much farther from land, and it is early in the season.

The seals appear off the coast outside of the heads in the early part of January. They are traveling all the time north, and from that time on to June they are traveling towards the Bering Sea. *William H. Long, p. 457.*

Q. When does sealing commence in the Pacific and when does it end?—A. It commences about the 1st of January and ends about the last of June. *Charles Lutjens, p. 458.*

Q. When does sealing commence in the Bering Sea and when does it end?—A. Sealing commences in the Bering Sea about the 5th of July and ends about the middle of September.

Q. Judging by the direction that seals were traveling in the spring of the year, during your experience, where do you suppose was their destination?—A. The Bering Sea.

First seal were taken off Cape Flattery about the middle of February. We followed them up the coast as far as Mount Edgecumbe. *George McAlpine, p. 266.*

Have hunted from San Francisco to Kadiak. First start to hunt about the last of March. They are constantly on the move up the coast. *J. D. McDonald, p. 266.*

The fact remains, however, that the great mass of the pups migrate with their elders down through the passes between the islands of the Aleutian Archipelago into the North Pacific, and are found at any time during the winter months east of longitude 170° west and north of latitude 35° north. Toward spring they appear in increasing numbers off the coasts of California, Oregon, and Washington, and as the season advances still farther north along the British Columbia and Alaska coasts in March and April; thence westerly in May and June and July until they reappear in Bering Sea. The course pursued by the seals in their migration is, to some extent, a matter of conjecture, and the knowledge upon which evidence is given concerning it can not of course be based upon actual personal cognizance by any one man of all the facts from which the conclusion is reached; but it is, nevertheless, I have no doubt, as accurately stated in this paragraph as is warranted by any series of observations. *H. H. McIntyre p. 42.*

The pups which I have so far followed in their first migratory round, now appear as "yearlings." They spend perhaps the greater portion of their time, the second summer, in the water, until the latter part of August and September, when they come upon the land, both sexes herding together indiscriminately. They are not at this time, nor are their elders, particularly timid. Upon the near approach of a human form they start toward the water, but generally stop and look about them, unless closely followed, without any indication of fear, and leisurely proceed to the beach, or again lie down upon the sand or rocks. The same demeanor in the water, when about the islands, as they calmly float upon the surface until a boat is almost upon them before they awaken to any sense of danger, seems to indicate that they feel at home on and about the islands.

They again migrate southward for the second time, upon the approach

of cold weather, going a little earlier than in the preceding year, make the same round, and return to the islands as "two-year olds" in June or July. Now the sexes separate, the females going upon the breeding grounds, where they are fertilized before the old male leaves the island in August. * * * After coitus on shore the young female goes off to the feeding grounds or remains on or about the beaches, disporting on the land or in the water, as her inclination may lead her. The male of the same age goes upon the "hauling grounds" back of or beside the rookeries, where he remains the greater part of the time, if unmolested, until nearly the date of his next migration. Here he has only the native islander's club to fear, which, in the best interests of commerce, should not be used on him until the following year.

After the third migration the female returns to the breeding grounds to be delivered of her first pup, and the male comes again to the hauling grounds, but, as a whole, considerably earlier than he did when 2 years old. Here he remains pretty constantly, if he escapes the club, until the beginning of the rutting season, when his instincts lead him to stay much of the time in the water adjacent to the breeding grounds through which the females are passing from and to the rookeries, or when allowed by the older non-breeders, to coquette with the females upon the beach stones awash at the edge of the water.

The fourth and fifth migrations are about the same as the third. The female has already become a yearly producer of a single offspring, and the nonproducing male is, in each of the fourth and fifth years respectively, contributing a decreasing number of skins for market, and gaining size and strength to enable him, when 6 or 7 years old, to usurp the authority and jurisdiction of some old male whose days of usefulness are numbered. This change is not effected without sanguinary conflicts.

Q. What time of the year do you generally start out sealing in the Pacific?—A. I have varied always from the 11th of January until the 11th of February.

Alex. McLean, p. 436.

Q. When do you call the season's catch over?—A. About the 11th of September; probably a month later. I usually get back about the 11th of September.

Q. What time of the year are the seals all out of the Pacific, having gone to the Bering Sea? What months?—A. To my knowledge they would go into the Bering Sea after the 20th of June.

Q. What time of the year do you generally start out sealing in the Pacific, and up to what time do you continue?—A. I start out about the 15th of December and stay out until about the 1st of October.

Daniel McLean, p. 443.

Q. What time of the year are the seals practically all out of the Pacific, having gone to the Bering Sea?—A. About the 15th of June. Not all, but the body of them.

He states that fur-seal are rarely seen in Barclay Sound, and are usually found off the coast at a distance of from 5 to 15 miles. They are found in clear water, and never close the land.

John Margathe, p. 308.

The seal first make their appearance in March off Prince of Wales Island, and leave about the middle of June.

Frederick Mason, p. 284.

I believe the seals come to the islands from the southward, and when they leave in November or December they go southward through the passes of the Aleutian Islands and into the Pacific Ocean. *S. Melovidov, p. 147.*

When they do leave the island they go southward and pass once more through the passes of the Aleutian Islands and out into the North Pacific Ocean. *An'on Melovodoff, p. 144.*

The only seals taken by the natives of this place [Unalaska] are the this season's pups that go through the passes during the period between the last of October and the last of November. The northerly winds bring them in the direction of this harbor, and the natives go out in their bidarkas and spear and shoot them for food. Sometimes we find old male seals with them, but we dare not attack them in the bidarka. The mothers are not with them, and there are usually no seals of older age with them. They are the weaker of the pups, the stronger ones going on through the passes. No old seals haul out on shore here. *S. Melavidoff and D. Salamatoff, p. 209.*

The seal hunting commences in March and ends about the middle of June. The seals are constantly going north during that time. * * * I have seen a few fur-seals in the waters near Prince of Wales Island in the months of May and June. *Amos Mill, p. 285.*

Start the season off Cooks Inlet. The first seals are seen about May. *P. C. Miller, p. 223.*

Am at present hunter on the schooner *Henry Dennis*. First hunted seals off the Farallone Islands in February, and followed them up the coast into Bering Sea, which they enter about the 10th of July. I think the seals are constantly on the move up the coast. *G. E. Miner, p. 466.*

The fur-seals usually appear about Cooks Inlet early in the month of May. *Metry Monin, et al. p. 225.*

Q. When does sealing commence in the Pacific, and when does it end?—A. It commences about the 1st of January and ends about the last of June. *Frank Moreau, p. 468.*

Q. When does sealing commence in Bering Sea and when does it end?—A. It commences about the 1st of July and ends about the 1st of November.

Q. Judging by the direction the seals were traveling in the spring of the year, during your experience, where do you suppose was their destination?—A. The Bering Sea. *Frank Moreau, p. 469.*

The Alaska fur-seal is migratory, leaving the Pribilof Islands in early winter, going southward into the Pacific and returning again in May, June, and July to said islands. *T. F. Morgan, p. 61.*

From the islands the pup with his fellows goes southward, passing through the passes between the Aleutian Islands, and holds its course still south till lost sight of in the ocean. From this time until the herd reappears off the Californian coast their course is a matter of belief; but from information of sea captains of coasting vessels who have sailed during the winter, seals during December and the first part of January are found heading southeastwardly toward the Californian coast. In January and February they begin to appear along that coast; then turning northward they proceed along the coast, reaching Vancouver Island about March, the Southern Alaska coast in April and May, and in June the herd reenters Bering Sea and proceeds again to their island home. It is impossible to state the course or exact time of migration with complete accuracy, but this course here designated I believe to be approximately correct. The pups which left the island the year before have now become "yearlings," the males and females herding together indiscriminately and not coming on shore until some time in August or September; they also leave the islands a little earlier than the first year and make the same course of migration as before. On their second return to the island as "two-year-olds" the sexes separate, the females going on the breeding rookeries where they are fertilized by the bulls, and the males hauling up with the nonbreeding males, called "bachelors," on the so-called "hauling grounds." The "two-year-olds" again migrate southward over the same course as formerly. On their return to the islands the female goes again to the breeding rookeries and there brings forth her first pup. From this time forward she increases the seal herd by one pup annually, and the male of the same age is on the hauling grounds and is now considered of a killable age. The fourth and fifth migrations are practically the same as the third.

Matthew Morris, p. 286. First took the seal off this island [Prince of Wales] in May.

The seal first come into Dixons Entrance in March. The weather is bad during that month, and I do not hunt them in canoes. The seal are constantly on the move. north.

Always hunted fur-seal between March and June. They make their appearance in March in Dixons Entrance, but at that time of the year the weather is so bad we can't hunt them. May is the best time to hunt them, because the weather is always good. They all disappear in June and go north up the coast—I think, to have their pups.

When I was a boy I hunted seal in Dixons Entrance and off Queen Charlottes Islands. Always hunted during April and May. In June the seal all leave, going north.

Hunt in Dixons Entrance and Queen Charlotte Sound. The seal make their appearance the last of March and disappear the 1st of June, and I hunt them during that time.

Joe. Neishkaith, p. 287.

We first discover seals on their way to the breeding grounds in January and February, off Cape Race. *Niles Nelson, p. 470.*

I observed that the fur-seals usually commence to move through both the East and West Passes of Unnak into Bering Sea about the last of May, the majority enter in the latter part of June, while very few are to be seen moving north after the middle of July. The seals going north through these passes are mostly females and young bachelors; very few bulls go that way. The natives first reported fur-seals moving south through the same passes about the 1st of October. The majority pass into the Pacific between the 20th of October and the first of November, while the last ones are usually observed about the 25th of November. The seals moving south are gray pups, and medium-sized seals, the former in the majority. I can not distinguish the sex of fur-seals in the water. *Arthur Newman, p. 210.*

Seals leaving the Bering Sea via the Western Passes are generally seen moving steadily towards the south during northerly and north-westerly weather, but very rarely before a northeasterly wind. I think a somewhat larger portion of the seal herd moves through the East Pass of Unnak than through the West Pass. The proportions of pups, etc., are about the same, however. * * *

While sailing between San Francisco and Unalaska I never saw a fur-seal in the water between sight of the highland of the Aleutians and San Francisco, but close to the Fox Islands generally fell in with plenty of them. I never saw a fur-seal in the water between Amukta Pass and Attu Island.

Fur-seals are very little known at Atka and Attu, and it is my belief that the farthest west the main herd moves to and from Bering Sea is through the Four Mountain Islands Pass. *Arthur Newman, p. 211.*

The seal always come here before the birds begin to sing very much, and they are all gone when the salmon berries get ripe, which I think is between the months of March and July. *Nikla-ah, p. 288.* * * *

About the time the wild geese are flying north the seals are most plentiful.

We commenced hunting outside of Cape Cook, about 5 miles from shore, and hunted from there up to Unamak Pass, in the Aleutian Islands and entered the Bering Sea about the 5th of June, and was ordered out of the sea the 19th of June. *John Olsen, p. 471.*

Seals first appear off Cape Flattery about the 1st of January, and pass on up the coast and begin to disappear in June, the old cows leaving first, and about the last of June they are all gone. *Osly, p. 391.*

My observation on this coast is, that the young seals are nearest to land and the cow seals have a course some farther out. The bulls are still farther out and much more scattered and shy. The seals lay around off the coast of California and north of there until early in February, when they commence to work slowly along up the coast and enter Bering Sea in June and July. Their habits in this respect are well known to the hunters.

The seals first appear in this vicinity about the 1st of January, and pass along up the coast in June and July. The cows most all disappear in June and the younger seals a little later.

I do not know at what times or by what routes the seal herds move to and from the Bering Sea; have heard old hunters say the Commander Islands herd used to pass close to the western shores of these islands on their way north.

I have found that seals appear off the Farralone Islands about Christmas, off British Columbia in March, off Yakutat Bay April 15th.

Beginning at Cooks Inlet, in the spring, we find seals off the inlet in May traveling westward along the coast toward the Bering Sea.

We commenced to seal from the Cordell Banks off the coast of California right up to the Bering Sea.

At the time my book was written the regular migratory habits of the animals were not as well understood in respect to the routes of migration as they are now, and naturalists always commence their description with the arrival of the different classes of seals at the northern breeding grounds, beginning with the "bulls" in the early spring, following them with the "cows" and "bachelors" at a later date, and then taking up the birth and development of the young. This, I think, resulted from our ignorance of where they spent the winter months. Now it is well known that the Pribilof seals work their way down to the coasts of California, Oregon, and British Columbia, and go north again in the spring; and that the Commander Islands herd migrates down the Asiatic coast, the two herds keeping apart from each other. I held this opinion many years ago, as is shown by my letter to the honorable Secretary of the Treasury, written August 30, 1869, as follows, and later observations and reading have confirmed my conclusions:

"SAN FRANCISCO, CAL.,
"August 30, 1869.

"SIR: While on the station at Puget Sound frequent opportunities offered to observe the habits of the fur-seals.

"I have long been of the opinion that those seen off the mouth of Juan de Fuca Strait were a portion at least of the great herds that make

their annual visits to the islands of St. George and St. Paul, Bering Sea.

"Since my return to this city I have gathered further information which convinces me that beyond question the seals passing the mouth of the strait during the months of March, April, and a part of May resort to the above-named islands to bring forth their young, as nearly all the females (and no others are caught) taken by the Indians at this point have fœtuses in them that to all appearances would be brought forward on their arrival at their northern summer haunt."

I have no doubt the northern seals of the Pribilof Islands spread over a very wide extent of the North Pacific in winter. They are occasionally seen far off from land, but are much more numerous within soundings. *C. M. Scammon, p. 475.*

Have hunted seal off Sitka Sound, where they first make their appearance about April 15, and remain in greater or less numbers till the last of June. *Martin Singay, p. 268.*

Seal first make their appearance about April 15 off Sitka Sound, and disappear about July. *Jack Sitka, p. 268.*

Always hunted seal in Dixons Entrance and off Prince of Wales Island, and hunted them each year from March to June. The seal all leave about June 1, to go north and have their pups, I think. *Thomas Skowl, p. 300.*

We commence hunting when the geese begin to fly and hunt for a month and a half. The geese commence to fly about the last of April. *George Skultika, p. 290.*

Have seen and taken seal off Cape Flattery in March. They are constantly advancing up the coast. I followed them into Bering Sea, where they arrive about July 1st. *Fred. Smith, p. 349.*

First seal seen and taken by me were off the Columbia River in January and February. The seal at time were traveling north. *William H. Smith, p. 478.*

I do not know much about the particular habits of the seals except that they go north in summer and south in winter. *Cyrus Stephens, p. 480.*

First struck the seal off the Columbia River about February 1. Follow the seal up the coast into Bering Sea, which they enter early in July. *Joshua Stickland, p. 349.*

Q. When does sealing commence in the Pacific, and when does it end?—A. It begins the 1st of January, up to about the 1st of July. *Gustave Sundrall, p. 480.*

Q. When does sealing commence in the Bering Sea, and what date does it end?—A. From the 15th of July until the 1st of November.

Q. Judging by the direction that seals were traveling during your experience, where do you suppose was their destination?—A. I can not tell their destination, but I should judge they went south in the fall from 15 to 500 miles offshore, and in the spring they travel to the northward from 5 to 100 miles offshore.

M. Thlkahdaynahkee, p. 481. Have first seen and killed seal off Sitka Sound about April 15, and disappear entirely about July 1.

The hunters follow the seal from south of San Francisco, where they begin to take them in February until they enter Bering Sea. The seal are constantly on the advance up the coast from the time they first appear.

W. Thomas, p. 485.

Seal have been seen and taken on the coast by me from the 10th of April till the 4th of July. At the beginning of the season they are plentiful, but scarce at the close of the season. They are constantly going north along the coast.

Jno. C. Tolman, p. 222. The seal are taken off Kadiak Island about the 1st of June.

Took seal along the coast as far as Yakutat. First seal were seen and caught last year off Sitka Sound and last year off Salisbury Sound in April and May. The seal are working to westward all the time.

John Tysum, p. 394.

Seals appear on the coast about the last of December, and they are nearly all gone up north by the middle of July. * * *

The cow seals leave the vicinity of Cape Flattery sooner than the young seals do, and are almost all gone in June; but I have killed young ones as late as July.

James Unatajim, p. 271. The first seal make their appearance on this coast off Sitka Sound. They are then advancing up the coast.

George Usher, p. 291. The seals at this time [May 10th] of year are always going north.

Rudolph Walton, p. 272. Have seen and taken seal from the middle of April to the middle of May. They are on their way north at that time.

First seal are seen and taken by me off Sitka Sound. When I was a boy seal came into the sound very close, but now I have to go a long ways to get them. Seal do not stop off the sound long, but are constantly on the move north and west.

Charlie Wauk, p. 273.

The seals appear in these waters late in April and increase in numbers until the latter part of May, and then gradually decrease in numbers until about the 15th of July, when they all disappear. *M. L. Washburn, p. 488.*

The seals first appeared about the cape the last of December, and the grown females all leave for the north in June; but we kill some of the younger seals up to the middle of July, and then they leave. I have not caught any gray pups this year, and have never hunted seals in the Bering Sea. *Watkins, p. 395.*

Leaving the islands late in the fall or in early winter, on account of the inclemency of the weather, they journey southward through the passes of the Aleutian Archipelago to the coast of California, Oregon, and Washington, and, gradually working their way back to Bering Sea, they again come up on the rookeries soon after the ice disappears from the shores of the islands; and my observation leads me to believe that they select, as near as possible, the places they occupied the year before. *Daniel Webster, p. 180.*

I first took seal off Sitka Sound during the month of March. Have done my sealing all this year between Cape Edcumbe and Cross Sound. *P. S. Weittenhiller, p. 274.*

Seals begin to appear on the coast the latter part of December, and they are almost all gone by the 10th of July. The cows appear to leave for the northward earlier than the younger ones. *Charley White, p. 396.*

About the 1st of June the seal disappear from Dixons Entrance and go north. *Billy Williams, p. 300.*

The deponent resided in the Hawaiian Islands for a period of twenty years during the time his firm was engaged in whaling and sealing as above stated; during that time he was brought in contact with many masters of vessels and other sea-faring men, who made frequent voyages between the Hawaiian Islands and Puget Sound, and he learned from them that during the months of November and December they occasionally encountered schools or "pods" of seals moving from north towards the lower coast of California; he himself in one of his voyages in the month of November, saw such "pods;" and from these facts and his knowledge of the habits of the seals which frequent and have their home on the Pribilof Islands, he is satisfied that the herd of said islands confine their migration to the waters of the American side of the ocean, and that when they leave the islands they go through the passes of the Aleutian Islands to the coast of southern California, and thence along up the coast again to the Pribilof Islands. *C. A. Williams, p. 539.*

The seal all disappear off Prince of Wales Island in June; I don't know where they go, but think they go north. *Fred. Wilson, p. 301.*

Seals first appear off Cape Flattery about the last of December. The cows seem to leave first, and in July nearly all of the seals have disappeared. *Wispool, p. 397.*

First seal are seen and taken by me about the middle of April of each year. There are more or less of them on the coast till the 1st of July. First part of the season they are plentiful, but towards the last they become scarce. During the above-mentioned period the seal are on the move to the westward.

Michael Wooskoot, p. 274.

Have hunted fur-seals the last two years in Dixons Entrance and around the Prince of Wales Island, between March and June. The seal leave here in June and go north.

Billy Yeltachy, p. 302.

Have always hunted in Dixons Entrance and off Prince of Wales Island. The seal make their appearance in March and disappear in June, going north. The reason we don't hunt the seal in March is that the weather is so bad we can not go out in our canoes. We consider May the best month for fur-seal hunting.

Hastings Yethnow, p. 302.

Begin to hunt seal off San Francisco in February, and followed them up the coast as far as Shumakin Islands, which we reached the last of June. The seal all disappeared from there at this time.

Alf. Yokansen, p. 363.

Seal make their appearance off Prince of Wales Islands in April.

Paul Young, p. 292.

Always hunted in Dixons Entrance and off Prince of Wales Island. The seal all disappear about the 1st of June and go north, I think.

Walter Young, p. 303.

The cow seals are the first to leave the coast, but the young seals stay longer here, and are not all gone until in July.

Hish Yulla, p. 398.

I do not know through what passes of the Aleutian Islands the fur-seal herds move into the Bering Sea, nor at what time they do so. I have seen so few fur-seals, and never any but a few scattering gray pups, that I am unable to form any ideas regarding the decrease of the fur-seal species.

Pud Zaotchnoi, p. 213.

The seals first appear off the cape about Christmas, but do not come in the straits now like they used to, and they are very shy and wild. They appear to be passing to the northward, up the coast, and in July are all gone.

Thos. Zolnoks, p. 399.

MANNER OF TRAVELING.

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From their habits in the water the seals are known as "jumpers" or "breachers" when they are moving through the water, "rollers" when they are lying idle on the surface and moved by every wave, "finners" when they are resting and finning themselves with their fins, and

A. B. Alexander, p. 355.

"sleepers" when they are asleep on the smooth water and can be approached to within close range.

In those days there were a great many seals in the water, and they would go in bands of 15 or 20 together. *Bowa-chup, p. 376.*

When the seals are asleep on the water they lie on their backs with the fore flippers sticking up and held close to the head. They always lay with the head toward the wind, the flippers being spread out and acting as sails to keep them steady in the water, making it hard for a boat to approach them when they are awake, because the noise of the oars is carried to them. If a boat comes upon them from the windward they will take the scent and dive, and if from leeward they readily see it, and do the same. *William Brennan, p. 359.*

I saw but very few seals between here and San Diego, but north from here to Victoria I have formerly seen large herds of them sleeping and playing on the water during the winter and spring months. In May and June they congregate about the passes to enter the Bering Sea, and I have seen them in great numbers at this time. *Leander Cox, p. 416*

I have noticed that the seals gather in large herds at the passes about the time they are ready to go into the Bering Sea, and that they are more scattered when seen along the coast. *M. C. Erskine, p. 422.*

As the bulls are scattered about and go out to sea a great distance, it does not pay to go after them, while the females go in big bands and do not travel offshore as far as the bulls. *George Fogel, p. 424.*

We first fell in with fur-seals moving north early in the month of February, about 50 miles off the coast, in the region of Cape Mendocino, California. They were very scarce then, but as we traveled up the coast we found them more numerous. They were most plentiful off the mouth of the Columbia River in the early part of the month of March. The migratory movement of the fur-seal is from the southward to the northward and westward, following the general trend of the coast of the mainland. The main herd is most compactly massed between 40 and 60 miles offshore, but some of the seals scatter and straggle over an area a long distance on each side of that. The males are generally in advance of the females on the passage north. Females are found in the greatest numbers off Baranoff Island about the middle of the month of May. We followed the main herd up the coast as far as the southwestern end of Kodiak Island, where we usually left them on account of their diminished numbers. *Norman Hodgson, p. 366.*

The seals which I have observed on their way to the Pribilof Islands do not move in large schools; they straggle along a few at a time in a sort of a stream, and are often seen sleeping in the water and playing. *Chas. J. Hague, p. 208.*

They appear to travel in two columns, the outer column containing an army only of bulls, and the inner one mostly cows and yearlings. These columns are not continuous schools of seals, but rather small parties scattered along. The column traveling along the British Columbia coast head for the Pribilof Islands; their natural breeding ground.

Morris Moss, p. 341.

Fur-seals travel in large schools, which follow each other closely. The annual migration of their entire number occupies from three to four weeks in passing a point in the region of Prince William Sound, and they move from the southward and eastward to the northward and westward.

T. W. Smith, p. 233.

HERD DOES NOT LAND EXCEPT ON PRIBILOF ISLANDS.

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I have no knowledge of the existence of any rookeries or any place where fur-seals haul up on the land in the Northern Hemisphere other than those fur-seal rookeries on the several seal islands of Bering Sea.

Andrew Anderson, p. 217.

I never knew of fur-seals hauling out to rest or breed at any place in the Aleutian chain, or anywhere, in fact, except the well-known rookeries of the several seal islands of Bering Sea.

C. H. Anderson, p. 205.

I do not know nor have I ever heard of any place where seals haul out or breed except the seal islands of the Bering Sea.

N. W. Anderson, p. 223.

Nor have I ever known fur-seals to haul up anywhere on the land except on the Pribilof Islands.

Peter Anderson, p. 313.

Have never known of fur-seals hauling up on the land on the coast of Alaska. Have seen them haul up on the Pribilof Islands.

Adam Ayonkee, p. 255.

Q. Do you know of any place where seals land outside of the seal islands?—A. The seals are found only on certain islands, where they migrate from year to year for the purpose of breeding—throwing their pups.

Geo. Ball, p. 482.

I know of none, nor neither do I believe there is any place where the fur-seals haul up to breed on land along our shores or in the Bering Sea, except on Pribilof Islands.

Wm. Bendt, p. 405.

Have never known seal to haul up on the coast anywhere outside of the Pribilof Islands.

Milton C. Bennett, p. 357.

I have never heard of any fur-seal hauling up on the coast elsewhere than on the Pribilof Islands.

Martin Benson, p. 405.

The Alaska fur seal breeds nowhere else except on the Pribilof Islands. I took particular care in investigating the question of what became of the seal herd while absent from the islands. My inquiries were made

Charles Bryant, p. 4.

among the Alaskan Indians, half-breeds, Aleuts, and fur-traders along the northwest coast and Aleutian Islands. One man, who had been a trapper for many years along the coast, stated to me that in all his experience he never knew of but one case where seals had hauled out on the Pacific coast, and that was when four or five landed on Queen Charlotte Island. This is the only case I ever heard of seals coming ashore on the American side of the Pacific except the Pribilof Islands.

I never saw or heard of any fur-seal rookeries in these (Bristol Bay, Aleutian Islands, and from Kadiak Island to Prince William Land) regions, except those on the seal islands of Bering Sea. Neither have I ever seen any fur-seals in abundance save on or near said seal islands. *Carlos G. Calkins, p. 103.*

Have never known seal to haul up anywhere outside of the Pribilof Islands. *Charles Campbell, p. 256.*

I have never known of seals hauling out on land anywhere on the coast except at the Pribilof Islands. *Jas. L. Carthout, p. 409.*

I do not know of any place where the seals haul up on this coast except on the seal islands. *Charles Challall, p. 411.*

We all have an intimate knowledge of the coast of Alaska from Kadiak to Unalaska, and know of no fur-seal rookeries other than those on the seal islands of Bering Sea. *Vassili Chichinoff et al., p. 219.*

Have never known of any seals hauling up on the land on this coast elsewhere than on the Pribilof Islands. *S. Chinkoo-tin, p. 257.*

Q. Do you know of any place where seals land, outside of the seal islands?—A. I do not. *Daniel Claussen, p. 412.*

Have never known or heard of fur-seals hauling up on the land on this coast elsewhere than the Pribilof Islands. *John C. Clements, p. 258.*

I do not know of and have never heard of fur-seals landing at any point but the seal islands of Bering Sea. *M. Cohen, p. 225.*

Mother seals pregnant are more easily caught than young bachelors, and I am sure it is necessary for them to go on land to breed, and I have never heard of them going anywhere else than on the seal islands for that purpose. *Peter Collins, p. 413.*

On my cruise to St. Matthews and Unamak Island, we did not discover any seal within 25 or 30 miles of those islands, nor do I know of or believe that the seals haul out upon land in any of the American waters of Bering Sea, except at the Pribilof Islands. *W. C. Coulson, p. 416.*

I have never known of a pup being born or of hauling grounds existing anywhere along the Alaskan coast or in the islands adjacent thereto, except the Pribilof Islands. I have heard stories and traditions to that effect, but I have never known of their being substantiated.

W. H. Dall, p. 23.

I have cruised up and down the coast of Vancouver Island, but never found a place where fur-seals hauled out upon shore, nor have I ever heard of any fur-seal rookeries in the Northern Hemisphere, except those in Bering Sea.

James Dalgaard, p. 364.

Never have heard of any fur seal being hauled up on the coast or rocks of Alaska other than on the Pribilof Islands.

Hooniah Dick, p. 258.

Have never known fur-seal to haul up on the land anywhere on the coast except on the Pribilof Islands.

George Dishow, p. 323.

I have never known or heard of any fur-seal hauling up on the land in British Columbia or Alaska outside of the Pribilof Islands. My connections with the Indians have been such that had there been a fur-seal rookery in British Columbia or Alaska I certainly should have known it.

Wm. Duncan, p. 279.

I have never seen fur-seals in the waters of Anchor Point, and am positive that no fur-seal rookery exists in the region, nor have I ever heard of any other rookeries than those on the seal islands of Bering Sea.

Elias Esaiassen, p. 236.

The fur-seal only lands upon the Pribilof Group of islands. Of this fact I am thoroughly convinced from carefully questioning natives of Alaska and the Aleutian Islands, and also from my coasting experience as purser on board the *Constantine*. In all the years I passed in these localities I never heard of a seal landing anywhere except on the Pribilof Islands.

Luther T. Franklin, p. 425.

Q. Do you know of any place where seals land, outside of the seal islands?—A. I do not; except in the fall, they land on the Aleutian Islands.

From 1859 to 1869 I was employed on whaling vessels working in Bering and Okhotsk seas and the Arctic Ocean. I have been along the coast of Bering and Okhotsk seas and along the coast of Alaska in the North Pacific Ocean from Sitka to Unalaska, and I never saw or heard tell of any in American waters in that whole region, where the Alaskan fur-seals haul out on land or breed, excepting on the seal islands of Bering Sea known as the Pribilof Islands.

John Fratis, p. 107.

Edward W. Funcke, p. 428. Q. Do you know of any place where seals land outside of the seal islands?—A. No, sir; I do not.

Have never known any fur-seal to haul out on the land or on the coast elsewhere than the Pribilof Islands. *Chad George, p. 366.*

And I have never known of any place where they haul up on land except the seal islands. *Thos. Gibson, p. 482.*

I have never known any fur-seal to haul up on the land in any part of Alaska, except on the Pribilof Islands. *Gonastut, p. 238.*

Never known any fur-seal to haul up on the land or on the coast elsewhere than on the Pribilof Island. *Jas. Gondowen, p. 259.*

Have never known seal to haul up on the land along the coast, except on the Pribilof Islands. *Jas. Griffin, p. 433.*

Have never known any fur-seal to haul up on the land elsewhere than on the Pribilof Islands. *Martin Hannon, p. 445.*

I never have known or heard of fur-seals hauling up on land anywhere on the North Pacific or Alaskan coast, or islands thereof, except on the seal islands. *J. M. Hays, p. 27.*

I have made diligent inquiry into the habits of the seals and have yet to learn that they haul up on land on the American coast or islands except the Pribilof Islands, at which place alone they bear their young. *M. A. Healy, p. 29.*

Q. Do you know of any place where seals land, outside of the seal islands?—A. I do not; no, sir. *Wm. Hanson, p. 484.*

Q. Do you know of any place where seals land outside of the seal islands?—A. No, sir. *Andrew J. Hoffman, p. 447.*

Have never known of seal to haul up on the land anywhere, except on the Pribilof Islands. *O. Holm, p. 368.*

In all those years I have met and talked with hunters, trappers, traders, and miners whose business called them into Alaskan waters, and I never knew or heard tell of any fur-seals hauling out on land to breed anywhere on the Alaskan coast or islands in the North Pacific or American waters of the Bering Sea, excepting the Pribilof Islands. *Edward Hughes, p. 37.*

I have never known fur-seal to haul out upon any part of the coast of the United States, British Columbia, or Alaska, except the Pribilof Islands. All parts of the coast have been visited by the seal hunters, and if seal hauled out any place it would have been known by the hunters. *Victor Jackobson, p. 329.*

Never knew any seal to haul up on the land on the coast elsewhere than on the Pribilof Islands. *J. Johnson, p. 331.*

Have never heard of fur-seal hauling up on the land or on the coast elsewhere than on the Pribilof Islands. * * *
Philip Kashevaroff, p. 262. When I was with the Russian Company I spent six years looking for rookeries, but was unable to find any place where fur-seal hauled out elsewhere than on the Pribilof Islands.

Have never known any fur-seal to haul out on the land on the coast of Alaska; have heard that they do haul out on the Pribilof Islands.
M. Kethusduck, p. 263.

They never show themselves out of water in the locality of Barelay Sound. He has seen them on beach in the Bering Sea.
Kickiana, p. 306.

Have never known any seal to haul up on land or on the coast of Alaska, but have heard that they haul up on the Pribiloff Islands.
John Kowineet, p. 264.

I have no knowledge of the existence of any fur-seal rookery or place where fur-seals haul up on the land, other than on the rookeries of the several seal islands in Bering Sea.
Olaf Krani, p. 236.

Have never known of fur-seals hauling up on the land on the coast of Alaska, but have heard that they haul up on the Pribilof Islands.
George Lacheek, p. 265

I know of no place along the eastern coast where fur-seals haul out on land, and I do not believe there is any outside of the Pribilof Islands.
Andrew Laing, p. 335.

During my travels in Alaskan waters I have made extensive investigations concerning the existence of fur-seal rookeries, especially about the region of Cooks Inlet and Prince William Sound, where rookeries have been reported to exist, as well as those places where fur-seals are annually observed in the greatest numbers. I am, therefore, positive in my belief that no such fur-seal rookeries, or other places where fur-seals haul out on the land to breed, exists in Alaska with the exception of those on the seal islands of Bering Sea.
Jas. E. Lennan, p. 370.

The breeding seals, as far as I can learn from extended inquiry, do not come upon land, except at their regular rookeries, and there are none of those outside of the Bering Sea islands and Robben Bank. Young seals are sometimes driven for a few hours by stress of weather into the inlets about the Straits of Fuca and vicinity.
Isaac Liebes, p. 455.

I never saw pups born in the water, nor do I know of any fur-seals hauling up on the land anywhere save the rookeries on the various seal islands in Bering Sea.
E. W. Littlejohn, p. 457.

Q. Do you know of any place where seals land outside of the seal islands?—A. No, sir; I know of no place.
Chas. Lutjens, p. 459.

Have never known or heard of seal hanling up on the islands or main coast of Alaska, other than on the Pribilof Islands. Have seen a few pups in Cordova Bay late in December, where they were driven by strong southeast gales prevailing on the coast at that time. *J. D. McDonald, p. 267.*

Have never known any fur-seal to haul up on the coast anywhere, outside of the Pribilof Islands. *Jas. McKeen, p. 267.*

Q. Do you know any place where these seals go to land, except the seal islands on the American side?—A. No, sir; not any place that I know of. There have been lots of reports of places, but I have been to these places and could not find any seals there. *Alexander McLean, p. 437.*

I have never seen or heard of a fur-seal being hanled up on the land anywhere in this part of Alaska, nor do I believe that old fable that is told by some of the old men that fur-seal once did haul up here, or any other part of Alaska outside of the seal islands. *Fred Mason, d. 284.*

Have never known seals to haul up on the coast of Alaska outside of the Pribilof Islands. *G. E. Minor, p. 466.*

Q. Do you know of any place where seals land outside of the seal islands?—A. I do not; no, sir. *Frank Moreau, p. 468.*

The Alaska fur-seal breeds, I am thoroughly convinced, only upon the Pribilof Islands; that I have been on the Alaska coast and also along the Aleutian Islands; that at no point have I ever observed seals to haul out on land except at the Pribilof Islands, nor have I been able to obtain any authentic information which causes me to believe such is the case. *T. F. Morgan, p. 61.*

I have never known or heard of any place where seals haul out except seal island. *P. C. Muller, p. 223.*

I know of no places that the seals haul up in the Bering Sea or North Pacific for breeding purposes except St. George, St. Paul, Otter Island, Bering Island, Robben Island, and Copper Island. *Niles Nelson, p. 470.*

I have seen sick and wounded fur-seals hauled out on rocks about the passes to rest and die, but know of no place where they habitually land to breed or rest in the region, save the several well-known seal islands of Bering Sea. *Arthur Newman, p. 210.*

I know of no place where they haul up on land except the Pribilof Islands. *John Olsen, p. 472.*

Do not know of any rookeries in the Aleutian Islands, nor any places where fur-seals haul out regularly on the land or kelp to breed or rest except the Russian and American seal islands of Bering Sea. *Eliak Prokopief, p. 215.*

Wm. Rohde, p. 222. I know of no place where fur-seals haul out on land except the seal islands of Bering Sea, nor have I ever heard of such a place.

I do not know and I never heard of any other place along the American coast or islands where the fur-seals haul up, and it is my opinion that the fur-seal pup of the Alaskan herd is born nowhere else but on the Pribilof Islands.

Jas. Sloan, p. 498. I do not know of any other place on our coast where the seals haul up except at the seal islands.

Fred Smith, p. 349. Have never known any fur-seal to haul up on the land anywhere on the coast except on the Pribilof Islands.

Wm. H. Smith, p. 478. Have never heard of fur-seals hauling up on the coast elsewhere than on the Pribilof Islands.

Joshua Stickland, p. 350. Have never known of fur-seal hauling up on the land on the coast anywhere except on the seal islands.

Gustave Sundvall, p. 481. Q. Do you know of any place where seals land outside of the seal islands?—A. I do not know of any place; no, sir.

M. Thlkahdaynahkee, p. 269. Have never known any fur-seals to haul up on the land or on the coast elsewhere than the Pribilof Islands.

I have never known myself of fur-seal hauling up on the coast of Alaska outside of the Pribilof Islands, but have heard there were a few one season hauled on Oumnak Island.

W. Thomas, p. 485. I have never known any fur-seal to haul out on the coast of Alaska anywhere except on the Pribilof Islands.

Have never seen or heard of seals hauling up on the coast, elsewhere than on the Pribilof Islands. They very seldom come nearer this coast than 20 miles, when advancing north towards Bering Sea.

Peter Trearsheit, p. 271. I never have known and do not believe that the seals at the Pribilof Islands haul up on land anywhere except on those islands.

Chas. T. Wagner, p. 212. Have never known fur-seal to haul up on the coast on anywhere else outside of the Pribilof Islands.

Rudolph Walton, p. 272. And know of no instances where male seals have hauled out on land on the western coast except at the Pribilof Islands.

HERD DOES NOT ENTER INLAND WATERS.

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No fur-seals are ever seen in Cooks Inlet above Anchor Point. *Jno. Alexandroff et al.*
p. 229.

There is no place on the coast where the seals haul up and give birth to their young; they never give birth on the kelp. *H. Andricius, p. 314.*

Myself and tribe go to the coast as far as Wrangel and trade with the Killisnoo Indians for oil. Have never seen a fur-seal in all my travels up and down the coast. *Anna-Ulas, p. 254.*
Have never heard of fur-seal hauling up on any part of the coast. If seal had been hauled up on any part of the coast I should have been told of it by the people of other tribes with whom I have come in contact during the long years of my life.

We are positive that the majority of fur-seals do not enter Cooks Inlet, but pass across its entrance, following the coast of the mainland. We have occasionally observed a few seals which had strayed into the lower bays of the inlet, but they have only been seen at long and infrequent intervals. There are no fur-seal rookeries in this part of Alaska. *Nicoli Apokchee et al.,*
p. 224.

Have killed fur-seals, mostly females with pup, but have never seen or heard of fur-seals hauling up on the land in this part of Alaska, or anywhere else. * * * *Atnas-Koo, p. 237.*

Have never known of nor have I seen any fur-seal in the waters of Disenchantment Bay or any other inlet in this part of Alaska. They do not frequent these places.

I have never known any pups to be born in the water or on the land in this part of Alaska. Nor have I ever seen or heard of any fur-seal being in the inland waters of this part of Alaska. I have never heard of any fur-seal hauling up on the land in any part of Alaska. *Johnny Baronovitch, p. 276.*

Have never known any seal pups to be born in the water or on the land anywhere around this part of Alaska. Have never seen or heard of seals hauling up on the land around this part of Alaska. I have never seen any fur-seal around Annette Island or any of the inland waters of Alaska. *Maurice Bates, p. 277.*

Nor have I known of any seal hauling up on the land anywhere in Alaska. I have never seen any fur-seals in the water around Annette Island. *Edward Benson, p. 277.*

There is no place on the coast where the seals haul up on the land and give birth to their young. *Bernhardt Bleidner, p. 315.*

I know of no place where seals haul up on the coast, nor do I believe there is any. *Niels Bonde, p. 316.*

I do not know of any place along the coast where seals haul out upon the land, nor have I ever heard of such a place, and I have never killed any full-grown cows who were in milk.

Bowa-chup, p. 376.

Seals do not haul out upon the land along the coast, nor give birth to their young on the kelp or in the water. I have never heard the Indians or white sealers say that there is a place on the coast where seals haul out and breed.

Henry Brown, p. 318.

I know of no place along the coast where seals haul out upon the land; nor have I ever heard of such a place; nor neither does any of my people know of such a place.

Peter Brown, p. 377.

Landis Callapa, p. 379. I know of no place where seals haul out upon the land to breed on this coast. * * *

I scarcely ever see an old bull along the coast, and it is seldom we ever catch one.

I do not know of any place on this coast where seals haul up and breed, nor have I heard the Indians on Vancouver Island talk about any such place.

Charlie, p. 304.

Nor [do I believe that] any seals hauled up on any part of the coast of Alaska or on the islands adjacent thereto.

Toodays Charlie, p. 249.

Nor have I ever known fur-seal to haul up on the land anywhere on the coast of Alaska.

Peter Church, p. 257.

Seals do not haul out on the land along the coast to breed.

Circus Jim, p. 380.

I know of no place along the coast where seals haul out upon the land, nor do I think that they give birth to their young in the water or on the kelp. I am acquainted with the different tribes of Indians along the coast of Vancouver Island, and have never heard them say that seals haul out upon the land on the coast or in Barclay Sound.

Jas. A. Claplanhoo, p. 382.

I have never known of seal to haul out on the land anywhere in this part of Alaska or British Columbia wherever I have been.

William Clark, p. 293.

He states that to his knowledge the seals do not breed in the waters of Barclay Sound, but go ashore for that purpose a long distance to the northward. He has never seen seals on shore in Barclay Sound, or on kelp or other objects. When fishing outside he has never seen baby seals. Sometimes a few seals follow schools of herring into sound and go out hurriedly. On such occasions a few are killed.

Clat-ka-koi, p. 305.

But [have] never [observed seals] entering Cooks Inlet above Anchor Point. They cross the entrance of the inlet and appear off the mainland again in the vicinity of *M. Cohen, p. 225.*
Cape Douglass.

Have never known of any pups being born in the water or on the land on the coast of Alaska. I have never heard of any or seen any fur-seal hauled up on the land anywhere around Prince Edward Island or anywhere else on the coast. *Charlie Dahlin, p. 278.*

Seals do not haul out upon the land along the coast and breed. *Frank Davis, p. 383.*

I have never killed any cows giving milk along the coast, and I do think there is a place along the coast where seals haul out and breed. *Jeff Davis, p. 384.*

I never knew or heard of seals hauling up along the coast or giving birth to their young in the water. *Joseph Dennis, p. 418.*

To his knowledge, no seals ever came inside Barclay Sound, and that he never caught any inside, and, moreover, he and his friends never heard of any entering these waters. *Dick or Ehenchesut, p. 306.*

No seals are ever killed in Barclay Sound by being dashed on the rocks, and none ever breed in Barclay Sound or vicinity.

Have traveled from Hoonah to Fort Simpson and north as far as Chilcat through all the channels and sounds in southeastern Alaska, and I come in contact with the people of many tribes of Indians, and I have never heard them say that they had ever seen or heard of a fur-seal being hauled up on any part of the coast or on any of the islands along the coast of Alaska. Had they ever known of a rookery of fur-seal in any part of Alaska I should have known it. *Hooniah Dick, p. 258.*

Have never known any to haul up on the land anywhere in Alaska, nor have I ever seen any seal in the inland waters wherever I have been in Alaska. *Echon, p. 280.*

Seals do not haul out upon the land along the coast and give birth to their young. *Ellabush, p. 385.*

I have observed a few scattering fur-seals in the lower part of Cook's Inlet, but only at long and irregular intervals; I have never seen a fur-seal in the waters of Cook's Inlet above Anchor Point. *Vassili Feoder, p. 230.*

I have never known of pups to be born in the water or on the land anywhere around Queen Charlotte Islands or other parts of British Columbia and Alaska, where I have been. I have never known any seal to haul on the land on Queen Charlotte Islands or any part of British Columbia or Alaska; nor have I ever heard of any seal having hauled up anywhere in British Columbia or Alaska. *Frank, p. 294.*

I never knew any fur-seal to be in the inland waters around this part of Alaska, nor have I ever known any fur-seal to haul up on the land anywhere in Alaska.
Chief Frank, p. 280.

Never knew any fur-seal to be born in the water or on the land around British Columbia or Alaska. Never knew any fur-seal to haul up on the land in British Columbia or Alaska.
Luke Frank, p. 294.

In the winter season many years ago pup seals used to frequent the sound, driven in by the heavy southeast gales prevailing at that time; but the last four years there has not been a fur-seal seen in any part of Chatham Sound that I have been able to learn of. I visit the different parts of the sound with my tribe when they are making oil and have never known any fur-seal to haul up on the land or rocks in any part of Alaska that I ever visited.
Nicholi Gadowen, p. 250.

I have never seen or heard of fur-seal hauling up on the land in this part of Alaska. I have never seen a fur-seal in the inland waters between Port Chester and Loring.
Chas. Gibson, p. 281.

Have never seen any fur-seal in the inland waters of southern Alaska, but have heard of pups being seen in the bays during the prevalence of storms on the coast in winter time.
Gonastat, p. 238.

I have never known of fur-seal hauling out on the shores or floating kelp patches to rest or breed in this region.
Kassian Gorloi, p. 213.

Seals do not haul out upon the land along the coast.
Arthur Griffin, p. 326.

I have never known any fur-seal to haul up on the land. Old fables tell us that they hauled up at one time, but I have been unable to learn that they ever did. Never seen any fur-seal anywhere around this island or in any of the inland waters.
Henry Haldane, p. 282.

Never have known of a fur-seal pup being born in the water or anywhere else in Alaska, nor have I ever heard of fur seal being hauled out on the land in Alaska. I have traveled from Icy Bay to Sitka Sound and meet many Indians belonging to other tribes of Indians, and they never have told me that they had ever seen any fur-seal hauled out on the coast of Alaska or on any of the rocks adjacent thereto. I have heard that fur-seal do haul out, and that the pups are born on the Pribilof Islands.
Jac. Hartlissnuk, p. 239.

Never heard of any fur-seals being hauled up on the land on any part of the coast of Alaska where I have traveled. * * * I travel from Icy Bay to Sitka, and have never heard Indians of other tribes say that they had seen fur-seals hauled out on the land, nor have I ever heard them say that pups were born in the water.
Sam Hayikahtta, p. 239.

Have never known fur-seal to haul out on the land anywhere on the coast of Alaska. Have never been in Bering Sea.

E. Hofstad, p. 260.

I am intimately acquainted with the coast from here to Barelay Sound, and I know of no place, nor have not heard of any place, where seals come to land.

Alfred Irving, p. 387.

Seals do not haul out upon the land along the coast and breed.

Ishka, p. 387.

I do not think that they haul up on the land on the coast.

James Jamieson, p. 331.

Have never known pups to be born in the water or on the land in this part of Alaska. Have never known or heard of fur-seals hauling up on the land on the coast of Alaska.

Jack Johnson, p. 282.

Seals do not haul out upon the land and breed along the coast.

Selwiah Johnson, p. 388.

Have never known pups to be born in the water or on the land anywhere on the coast of Alaska. Have never known any seal to haul up on the land in Alaska. I have never seen any fur-seal in the inland waters of Alaska wherever I have traveled.

Johnnie Johnston, p. 283.

I have visited all the inlets and islands in Chatham Sound and other parts of Alaska as far as Sitka and never saw a fur-seal in the inland waters; nor have I ever heard of a fur-seal being seen in the inland waters. Have never heard of any fur-seal being hauled up on the land or rocks on or off the coast of Alaska. Had fur-seal been hauled up on the main coast or islands of Alaska, I should have known it, as the news would have been brought to me by the Indians of different tribes who came to purchase oil from my people.

Kah-chuck-tee, p. 248.

Have never known a fur-seal to haul up on the land anywhere on the Alaskan coast.

P. Kahiktday, p. 261.

Do not know of any rookeries or places where fur-seals regularly haul out on the land or kelp to breed in the Aleutian Islands, and do not think there is such a place.

Saml. Kahoaray, p. 214.

Have never killed or seen a fur-seal in my life, nor have I ever heard of any fur-seal having been seen in the inland waters of Alaska where I have traveled. Had any fur-seal been hauled up on the land in any inlet around Chatham Straits, Stevens Passage, or any of the waters of southeastern Alaska, I would have known of it, as it would have been told me by the people of other tribes.

Kaskau, p. 247.

Have never seen any fur-seal hauled up on the land anywhere, nor have I ever heard of any being hauled up on the land, either in British Columbia or Alaska.

King Kaskwa, p. 295.

Jim Kasooh, p. 296. I never knew fur-seals to haul out anywhere on the land in Alaska, nor have I ever heard of any being hauled out.

My business calls me away from this place to the different inlets and islands around Chatham Sound, and have never
Albert Keetnuck, p. 250. seen or heard of fur seal anywhere in the sound. The Indians who buy my fish oil belong to tribes who live long distances away. Have never heard them say that they ever saw any fur-seal hauled out on the islands, rocks, or any part of the mainland of Alaska. Had they hauled out on any place in Alaska I should have known it myself or would have been told of it by the Indians who come long distances to purchase oil from me.

I visit all the islands and rocks in following my business, in Chatham Sound, and have never been able to see a fur-seal in any part of the waters of southeastern Alaska in my life. Have never heard of any seal being in the waters nor on the land or rocks off or on the coast of southeastern Alaska. * * * Following my occupation, the people of other tribes come a very long distance to buy of me the oil which I make. Had there ever been any seal hauled out on any part of the Alaskan coast it would have been told to me by these people who come to my home to buy oil.

Have never known any fur-seal to haul out on the land, nor have I heard of any being hauled out on the land from
Kingooga, p. 240. people of different tribes whom I have met.

Have traveled from Icy Bay to Wrangel and have never seen any seal in the inland waters in my life. A few fur-seal pups have been killed in the bay within my remembrance, in the winter seasons, driven there by the storms on the coast at those times.

C. Klananeck, p. 263. Have never seen any fur-seal hauled out on the land in any part of Alaska.

I don't know of any fur-seal hauling up on the land anywhere in Alaska or British Columbia, and I don't know
Jas. Klonacket, p. 283. where they do haul up.

Have never heard of fur-seal hauling up on any land in Alaska, nor have I ever heard of seal pups being born in the
George Klotz-klotz, p. 247. water or on the coast of Alaska. In my dealings with the people of other tribes with whom I come in contact they would have told me had they known of any fur-seal having hauled up on any part of the Alaskan coast visited by them.

I have never seen or heard of any fur-seal being in the inland waters around Chatham Sound or any other place in
Konkonat, p. 251. Alaska. Nor have I ever heard of any seal being hauled up on any of the islands or on the coast of southeastern Alaska. Had any seal hauled up on the land or islands of southeastern Alaska I would have known it by hearing the Indians from other tribes talking about it who came to buy oil.

Robert Kooks, p. 296. Have never known any fur-seal to haul out on the land anywhere around this part of Alaska.

I never knew any old seals of any kind to haul out on the shores in this vicinity, nor have I ever heard any old men say they ever saw any old seals haul out. *Ivan Krukoff, p. 209.*

I am intimately acquainted with the bays and coast from here to Barclay Sound, and I know of no place on the coast, neither have I heard of any, where seals haul out upon the land and give birth to their young. *Jas. Lighthouse, p. 389.*

I know of no place on the coast where they haul out upon the land and breed. *Thos. Lowe, p. 371.*

Never knew of pups being born in the water nor anywhere else. Never knew any fur-seal to haul up on the land along the coast of Alaska. *Geo. McAlpine, p. 266.*

I have never known any pups to be born in the water or on the land on the coast around this part of Alaska. I have never known any fur-seal to haul up on the land anywhere in Alaska. I have never seen any fur-seal around Annette Island anywhere. *Edwd. Maitland, p. 284.*

Seals do not breed in the locality. A few one-year-old pups have been caught during the winter. Last season 700 or 800 seals were caught off the coast by the natives of villages on Barclay Sound. *John Margathe, p. 308.*

I have never known any seal to haul out on the land anywhere around this part of Alaska or British Columbia, and I never heard of any hauling out in Alaska or British Columbia. *Chas. Martin, p. 297.*

I know of no place on the coast where the seals haul up on the land. *Thorwal Mathason, p. 339.*

I have become well acquainted with the coast while engaged in my business of prospecting, traveling along it in a canoe and entering all bays, inlets, streams, etc., between the points above mentioned, and am positive that no rookeries exist in that region. * * * In Cook Inlet the water is very muddy above Anchor Point, and I have never known fur-seals to be seen beyond it. Below that point a few stragglers are occasionally observed, but never more than two or three at a time. *Robt. Michaelsen, p. 232.*

I have never seen any seal hauled out on the land anywhere around this part of Alaska. *Amos Mill, p. 285.*

They do not enter Cook Inlet, and there are no fur-seal rookeries in or about this part of Alaska. *Metry Monin et al., p. 226.*

I have never known any pups to be born in the water, or any fur-seal to haul up on the land in this part of Alaska. I have never seen any fur-seal in the water anywhere around in the island waters of Alaska. *Matthew Morris, p. 286.*

I am familiar with all the bays and inlets on the west coast of Vancouver Island. I do not know of any place along the coast where seals haul out upon the land and give birth to their young; nor have I heard the Indians on the Vancouver Island talk about any such a thing.

Moses, p. 309.

I have visited all the islands between here and Sitka and in other parts of the sound, and have never seen any fur-seal in the waters in my life. Never heard of any fur-seal pup being born in the water, nor have I heard of any fur-seal hauling up on the land or islands in southeastern Alaska or anywhere else. Had pups been born in the water or seals hauled up on the land on any part of the coast it would certainly be known to the Indians and I would have heard of it.

Billy Nah-hoo, p. 252.

I have never known any pups to be born in the water or on the land anywhere around this part of Alaska or in British Columbia. Have never known any fur-seal to haul up on the land anywhere in British Columbia or Alaska.

Nashton, p. 298.

Nor have I known any seals to haul up on the land anywhere in British Columbia or Alaska.

Smith Natch, p. 299.

Have never seen any fur-seal haul up on the land anywhere in Alaska or British Columbia, or on Queen Charlotte Islands.

Dan. Nathlan, p. 287.

Have never known any fur-seal to be hauled up on the coast of Alaska from Icy Bay to Wrangel. I have been up and down between those places many times. * * * Have never seen any fur-seals in the sounds or inlets between this place and Wrangel at any time of year. In early days a few pups used to be driven into this bay in the winter by the storms on the coast.

Nechantake, p. 240.

I have never heard of or seen any seal hauled up on the coast of Alaska anywhere. Have never even seen any fur-seal in the waters around Annette Sound or in any of the inland waters.

Jos. Neishkartk, p. 287.

I have never known or heard of fur-seal hauling up on the land anywhere in British Columbia, Queen Charlotte Islands, or Alaska.

Ntkla-ah, p. 288.

I have never seen any fur-seal anywhere in the inland waters, nor have I ever heard of any being around the inland waters of this part of Alaska.

Peter Olson, p. 288.

I have sealed all along the coast, from the mouth of the Columbia River to the passes leading into the Bering Sea, and do not know of any place on the coast where seals haul out upon the land.

Osly, p. 390.

I have sealed in that manner all the way along the coast from the Columbia River to the upper end of the Vancouver Island and have never seen a place along there where the seals hauled out upon the land.

Wilson Parker, p. 392.

I know of no place on the coast where seals come up to land, and I am positive there is none. *Edwin P. Porter, p. 347.*

Sealing schooners do not regularly visit these islands. Last August (1881) three of them came in here to get water, but only stayed a few hours each; they had been to the Commander Islands and were going south. *Elijah Prokopief, p. 215.*

I do not know of any fur-seal rookery or other places where fur-seals haul out on the land to breed or rest in the Alen-tian Islands, nor where the old bull fur-seals spend the winter. *Filaret Prokopief, p. 216.*

If any seal had hauled up on any of the islands in southeastern Alaska, I should have known it. They would certainly have been seen by some Indians, and they would have reported it to all. Have never seen a fur-seal in Chatham Sound or any of the inlets off the sound in my life. *Kesth Riley, p. 252.*

Years ago a few seal pups were driven into the bays by the storms on the coast during the winter season. *Rondtus, p. 242.*

I have never known or heard of any pups being born in the water or on the land anywhere around this part of Alaska. Have never known any fur-seal to haul up on the land anywhere around British Columbia or Alaska. *Abel Ryan, p. 299.*

I have traveled from Icy Bay to Nuehuk and back along the coast as far east as Lityu Bay, and have never seen any fur-seal in any inland waters wherever I have traveled. Have never known any fur-seal to come up on the land in Alaska or on any of the islands adjacent thereto, but have heard that they do haul out on the Pribilof Islands. *Schkatatm, p. 243.*

Have never known or heard of any pups being born in the water or anywhere on the coast, nor have I ever known or heard of any fur-seals being hauled up on the land anywhere in Alaska. Once in a while a few pups are driven into the bay by the hard gales blowing from the southeast on the coast during the month of December. *Schowwoosch, p. 243.*

I do not know of any place on the coast where the seals haul out upon the land to breed. *William Short, p. 348.*

Have never seen a fur-seal in Chatham Straits, Stevens Passage, or anywhere else in my life, nor have I ever heard of any fur-seal hauling out on any of the islands or rocks on any part of the coast of Alaska. And had any ever hauled out I should have known it by being told by the people of the different tribes with whom I come in contact. *George Schuckeyah, p. 248.*

Have been down to Sitka, and on all islands and inlets around Chatham Sound, and have never seen any fur-seal in my life, nor have I ever heard of any fur-seal being hauled up on any of the islands or rocks around Chatham Sound. Nor have I ever seen any man who said he ever saw a fur-seal pup in his life; have never seen an Indian belonging to any tribe who said he ever saw or heard of a fur-seal hauling up on the land anywhere in southern Alaska. The Indians who come here to trade with me and our people come long distances, and had there been a fur-seal rookery in any part of Alaska, my people and myself would have known it.

Have never known of seal hauling up on the land anywhere in Alaska, nor have I ever seen any fur-seal in the inland waters between this place and Wrangel Island.

The fur-seals usually appear off this part of the coast about the month of May, but they do not enter Cooks Inlet.

In all my traveling around in the waters of southeastern Alaska, I have only seen one fur-seal in my life. I have never seen or heard of pup seals being born in the water or anywhere in Alaska; nor have I ever seen or heard of fur-seals hauling up on the land in any part of Alaska.

Never knew of any fur-seals to haul up on the land along the coast of Alaska.

Never known fur-seals to haul up on the land; have heard that they do haul up on the Pribilof Islands.

Have heard that the fur-seal haul up on the Pribilof Islands, but never have seen, or have I ever heard of any fur-seal being hauled up on any part of the coast of Alaska, or rocks adjacent thereto. Never have seen any fur-seal in Disenchantment Bay, or anywhere else in the inlets of Alaska.

I have never seen a fur-seal in the waters of Cooks Inlet, and do not think any fur-seal rookery exists in this vicinity, as otherwise I believe I should have heard of it.

I have never known any fur-seal to haul out anywhere on the coast of British Columbia or Alaska, wherever I have been.

Have never seen any fur-seal born in the water or on the land anywhere in British Columbia or Alaska; have never seen or heard of any fur-seal rookeries in British Columbia or Alaska.

Nor have I ever heard of any fur-seal hauling up on the land or rocks anywhere around Chatham Sound. The people who I sell oil to come from a long distance, and I have never heard them say that they had seen fur-seal hauled up on the land anywhere, and they would have told me and others of our people had they seen any. *Yuan Stanoch, p. 253.*

I have never known any fur-seal to haul up on the land anywhere around this part of Alaska; nor have I ever known any fur-seal pups to be born in the water or anywhere else in Alaska; nor have I ever heard any Indians with whom I have come in contact say that they had ever known any fur-seal pups to have been born in the water; nor had they known any fur-seal to haul up on the land in any part of Alaska. *Stahkam, p. 245.*

I never saw any seals on the land as we went along the coast. *Cyrus Stephens, p. 480.*

I am sure there is no place on the coast where they haul out upon the land and give birth to their young. *John A. Swain p. 350.*

Have visited all the islands and inlets in Chatham Sound and other parts of southeastern Alaska; have never seen fur-seal in the inland waters; nor have I ever heard of any being there; nor have I heard of or seen any haul up on the land, any island, or rock on or off the coast of Alaska. In my business of making herring oil, which I dispose of to the people of the different tribes along the coast, I should have heard of seal being hauled up on any island or rock along the coast of Alaska, had there been any, for it is customary for the people of one tribe to tell the people of another all they know. *Tchet-Chak, p. 254.*

I have never seen or heard of any fur-seal being seen in any of the inland waters of Alaska, nor have I ever known of or seen any fur-seal hauled up on the land in any part of Alaska; have employed a great many Indian fishermen, and had there been a fur-seal rookery in any part of the Alaskan coast I should certainly have heard of it. *Wm. G. Thomas, p. 291.*

Have never known any fur-seal to haul up on the land around these bays or in any other part of Alaska. * * * Neither have I heard of any fur-seal hauling up on the land anywhere around this part of Alaska. Had there been any seal hauled up on the land it would have been told to me by people of different tribes with whom I have come in contact. *Thunk, p. 245.*

I am acquainted with the coast from Sitka to Kadiak. I do not know of any rookery along the coast, nor have I ever heard of any. *Peter Titchenoff, p. 222.*

Have never known fur-seal to haul up on the land or on the coast anywhere in Alaska. *Charlie Tlaksatan, p. 270.*

I have never seen a fur-seal in any of the inland waters of Alaska, nor have I ever heard of any being in the inland waters. *J. O. Tolman, p. 223.*

I visit all the islands and inlets around Chatham Sound in following my occupation of making oil from the herring which I catch. Have never seen a fur-seal in the inland waters in my life; nor did I ever hear of any being in the inland waters. * * * Had any fur-seal hauled up it would have become known to the Indians and I would have heard it; for I sell oil to all the tribes of Indians in southeastern Alaska, and they would have told me had they ever known or heard of there being a fur-seal rookery at any place along the coast.

Have killed mostly pups in the fall of the year, driven in by the severe weather outside; never have seen any fur-seal haul up on the land nor have I ever heard of any seal hauling up on the land.

Seals do not haul out upon the land along the coast and give birth to their young.

Have never known or heard of seal hauling up on the land on the coast of Alaska; have heard that they do haul up on the Pribilof Islands.

I have never seen any fur-seal hauled up on the rocks anywhere on the coast of this part of Alaska. I have never seen any fur-seal anywhere around Annette Island.

He has never seen or heard of seals inside Barclay Sound. They are all found outside. * * * He has never heard of seal breeding here and has never seen any seal. Witness states that he is the only white resident of village.

Have never known any seal to haul up on the land or on the coast of Alaska. Have heard that they do haul up on the Pribilof Islands.

I annually visit nearly all the settlements in this region, and many of the uninhabited islands, and have never seen, and in conversation with the various tribes of natives have never heard of fur-seals hauling on shore of the mainlands or the islands in this district, either for breeding or temporary resting place, since my residence in Alaska, and in only one case have I heard of a young pup fur-seal being found in the waters of this district. A single pup seal was found last year near Marnot Island by a hunter who had been for years engaged in hunting and this was the only case that had ever come to his knowledge. And I would say in this connection that all the small islands are visited during the summer by native hunting parties, and they informed me that they never had found any fur-seals on shore.

I do not know of any place along the coast here the seals haul out upon the land and give birth to their young.

He states that fur-seal do not come in close to shore in this locality, and are never found on land. Seals are caught off the coast at from 5 to 20 miles. They do not breed in this locality and nothing of the kind is known in the memory of the oldest inhabitant. *Weckenunesch, p. 311.*

I have never known any fur-seal to haul up anywhere on the land on the coast of Alaska. I have never been in Bering Sea. *P. S. Weittenhiller, p. 274.*

Seals do not haul out on land at Barelay Sound nor along the coast. *Charley White, p. 396.*

I have never known of any seals to haul up and breed between here and Unalua Pass. I have often followed them very close in to the mainland and have killed them sleeping on the water. *Michael White, p. 490.*

Have never known any fur-seal to haul up on the land anywhere on the coast of Alaska or British Columbia. *Billy Williams, p. 301.*

Have never known or heard of any fur-seal hauling up on the land anywhere on the coast of British Columbia or Alaska. *Fred Wilson, p. 301.*

There is a hair-seal rookery in the northern part of Cook's Inlet, on Kalgin Island, about latitude 60° 30' north.

I have never known fur-seals to come up into Cook's Inlet, above Anchor Point, and am positive that no fur-seal rookeries exists in the region; neither have I ever heard of fur-seal rookeries in the northern hemisphere other than those on the seal islands of Bering Sea. *Jas. Wilson, p. 228.*

I am familiar with the bays and inlets along the coast, and I do not know of any place on the coast where the seals haul out upon the land and breed. * * * I am familiar with the west coast of Vancouver Island, and have been in Barelay Sound, Clayquot Sound, and talked with the Indians there, and none of us know of any place along the coast where seals haul out upon the land and breed, nor have I ever heard any Indian speak of such a place. *Wispoos, p. 396.*

Have never known of any fur-seal to haul out on the land on the coast of Alaska. Have heard of them hauling out on the Pribilof Islands, but have never been there. *Michael Wooskoot, p. 275.*

Have never seen or heard of fur-seals hauling up on the land in any part of Alaska. *Yahkah, p. 246.*

I never heard of any fur-seal hauling up on the land anywhere in British Columbia or Alaska. *Billy Yeltachy, p. 302.*

Have never known any fur-seal to haul up on the land in British Columbia or Alaska. *Hastings Yethnow, p. 303.*

Nor have I ever heard of any fur-seal hauling up on the land anywhere in Alaska. I have not seen a fur-seal within five miles of land along the Alaskan coast.

Alf. Yohansen, p. 369.

I have never seen any fur-seal in the inland waters of this part of Alaska, nor have I ever heard of any being there from the people of my tribe. Have never known any fur-seal to haul up on the land.

Paul Young, p. 292.

Never known any fur-seals to haul up on the land in Alaska or British Columbia.

Walter Young, p. 303.

I have never known the seals to haul out upon the land along this coast and give birth to their young.

Hish Yulla, p. 398.

I never have seen or heard of a place along the coast where the seals haul out upon land.

Thos. Zolnoks, p. 398.

For many years it has been known that fur-seals breed at Guadalupe Island, where formerly large numbers were killed annually for their skins. Two thousand were secured as late as 1883, since which time small numbers have been taken nearly every year. Inasmuch as the Northern fur-seal (*Callorhinus ursinus*) is not known to breed south of the Pribilof Islands, but occurs in winter off the coast of northern California and passes north in the spring, it seemed important to determine the species of fur-seal inhabiting Guadalupe Island. For this purpose an expedition was sent to said island by the direction of Dr. C. Hart Merriam in May, 1892, in charge of Mr. C. H. Townsend, an assistant of the United States Fish Commission. Seven fur-seals were seen near the island and one was shot by Mr. Townsend, but it sank before it could be recovered. The visit was made too early in the season to find the seals on the shore. A beach on Guadalupe Island was visited where it was known that a large number of fur-seals had been killed a few years previously and four skulls were there obtained. We have carefully examined these skulls and find them to belong to a species of *Arctocephalus*, a very different kind of fur-seal from that found in Bering Sea, the well-known *Callorhinus ursinus*.

Dr. J. A. Allen, Theo. Gill, and Dr. C. H. Merriam, Vol. I, p. 586.

Sometimes during a heavy storm a few seals will be driven on shore for a short time, but will not stay but a few hours.

Wispool, p. 396.

THE RUSSIAN HERD.

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In summer the two herds remain entirely distinct, separated by a water interval of several hundred miles; and in their winter migrations those from the Pribilof Islands follow the American coast in a southeasterly direction, while those from the Commander and Kurile islands follow the Siberian and Japan coasts in a southwesterly direction, the two herds being separated in winter by a water interval of several thousand miles.

Report of the American Commissioners, p. 323 of The Case.

The Pribilof herd does not mingle with the herd located on the Commander Islands. This I know from the fact that the herd goes eastward after entering the Pacific Ocean, and from questioning natives and half-breeds who had resided in Kamchatka as employés of the Russian Fur Company, I learned that the Commander herd on leaving their islands go southwestward into the Okhotsk Sea and the waters to the southward of it and winter there. This fact was further verified by whalers who find them there in the early spring. *Chas. Bryant, p. 4.*

In the latter part of September of 1867, in the brig *Kentucky*, making passage between Petropaulowski and Kadiak, I observed the Commander Islands seal herd on its way from the rookeries. They moved in a compact mass or school, after the manner of herring, and were making a westerly course toward the Kurile Islands. *Chas. J. Hague, p. 207.*

MANAGEMENT OF THE SEAL ROOKERIES.

THE SLAUGHTER OF 1868.

Page 132 of The Case.

I went [in the spring of 1868] for the late John Parrott, of San Francisco, direct to the islands of St. Paul and St. George. We were the first parties who went to *Geo. R. Adams, p. 157.* those islands after the purchase, and commenced taking seals about the 1st of July. We and other parties took about 65,000 that year from St. George Island alone. We killed no females except by accident, for the reason that we thought at that time the skins of females were worthless.

During my observation only one class of bachelor seals on the islands showed any deficiency in numbers, and I accounted for this fact in my report to the Secretary of the Treasury, dated September 5, 1872, from which I quote: "The weather, although excessively foggy and disagreeable to the residents of *Chas. Bryant, p. 7.* the islands, has been especially favorable to the young seals. It is also observable that a larger number of yearlings or last-year pups than usual have returned to the islands the present season. There is now only a deficiency of one class, that of the four or five year old seals. This is clearly traceable to the following causes: During the season of 1868 there were killed on both islands 220,000 animals for their skins, and in the season of 1869, 85,000 for their skins. At that time the relative value of the sizes or ages of the skins was not understood, and all the skins being paid for at the same price, the natives, who were quick to perceive the difference between taking a small skin and a large one and carrying it to the salt house, killed all the yearlings that they could; these were the products of 1867 and 1868. These were sent forward in 1870 to market and overstocked it with small skins. This created a demand for larger skins, and the Alaska Commercial Company instructed their agents to take all the large skins possible in 1871; this was done and as many 4 and 5 year old seals as could be taken. This again fell on the already diminished product of 1867 and 1868. When these were sent to market they were found too old, and now the proper medium being ascertained the seals will be selected accordingly."

It should be borne in mind that the killing in 1868 was done by unauthorized persons before the Government could arrange for the protection of the rookeries.

As a result of the above experience I would further state the following facts: During my visit to St. George Island in 1868, before referred to, this vast Territory of Alaska had just fallen into the possession of the United States, and the *W. H. Dall, p. 23.* Government had not yet fairly established more than the beginning of an organization for its management, as a whole,

without mentioning such details as the Pribilof Islands. In consequence of this state of affairs private enterprise in the form of companies dealing in furs had established numerous sealing stations on the islands during 1868. During my stay, except on a single occasion, the driving from the hauling grounds, the killing, and skinning was done by the natives in the same manner as when under Russian rule, each competing party paying them so much per skin for their labor in taking them. Despite the very bitter and more or less unscrupulous competition among the various parties, all recognized the importance of preserving the industry and protecting the breeding grounds from molestation, and for the most part were guided by this conviction.

T. F. Morgan, p. 63. My knowledge of the catch of 1868 enables me to state that the destruction of seals from all sources in that year was about 240,000. This is the maximum figure.

Gustave Niebaum, p. 208. The various parties took that year about 236,000 seals, of which about 140,000 were killed under my direction.

AMERICAN MANAGEMENT.

THE LEASE OF 1870.

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No sealing was done at the Pribilof Islands during the seasons of 1869 and 1870 except for food for the natives, the
Geo. R. Adams, p. 157. Government having declared these islands a reservation, and the lessees did not perfect the lease in time to commence operations that year (1870.)

In the spring of 1869 I joined the United States revenue steamer *Lincoln*, and made the summer's cruise in her of
H. H. McIntyre, p. 47. about four months, touching at many points along the Alaska coast between Sitka and the most westerly island of the Aleutian Archipelago, visiting the Pribilof group twice during the season.

The habits of the seals and manner of driving and killing them during Russian occupation of the islands, and in 1868, after the transfer of Alaska to the United States, were as carefully inquired into as the limited time and opportunity would admit, and reported to the Treasury Department under date of November 30, 1869 (House Ex. Doc. 36, Forty-first Congress, second session). This report, together with that of Special Agent Charles Bryant, formed the basis of subsequent legislation providing for the leasing of the right to kill 100,000 seals annually for their skins. The report was, in the absence of more reliable information, largely based upon the traditions and opinions of the natives and traders, to whom the management of the sealeries was intrusted by the Russian Fur Company, and was afterwards found to be erroneous in many particulars. Upon the main point, however, that of fixing 100,000 seals as the proper number to be killed annually, we have shown by the experience of many years to have been correct.

To the intelligent inquirer as to the value of the system now in operation for handling and disposing of the annual quota of skins from the seal islands, no doubt can remain that it is the best, indeed the only one possible to pursue with success. The Government itself could not enter into business and follow details either with propriety or hope of profit. *C. A. Williams, p. 546.*

The right to take 100,000 seal skins annually from these islands, under certain stipulated restrictions, is leased by the Government of the United States to an association of American citizens known as the Alaska Commercial Company. The company pays a rental of \$55,000 per annum and \$2.62½ per skin, a total of \$317,500 per annum, for this right. They are also obligated to a certain care of the Aleuts inhabiting the islands and to a partial provision for their needs, both mental and physical. *C. A. Williams, p. 543.*

CONDITION OF THE NATIVES.

UNDER THE RUSSIAN COMPANY.

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The general methods employed under American rule were far superior to those of the Russians, as will be readily understood from the following facts: *Charles Bryant, p. 8.*

When I first visited the seal islands in 1868 the natives were living in semisubterranean houses built of turf and such pieces of driftwood and whale bones as they were able to secure on the beach. Their food had been prior to that time insufficient in variety, and was comprised of seal meat and a few other articles, furnished in meager quantity by the Russian Fur Company. They had no fuel, and depended for heat upon the crowding together in their turf houses, sleeping in the dried grasses secured upon the islands. Forced to live under these conditions they could not of course make progress towards civilization. There were no facilities for transporting the skins. They were carried on the backs of the natives, entailing great labor and hardship, and by reason of these tedious methods the taking of the annual catch was extended over a number of months, being a continual source of molestation to the hauling seals.

Very soon after the islands came into the possession of the American Government all this was changed. Their underground earthen lodges were replaced by warm, comfortable, wooden cottages for each family; fuel, food, and clothing were furnished them at prices 25 per cent above the wholesale price of San Francisco; churches were built and school houses maintained for their benefit, and everything done that would insure their constant advancement in the way of civilization and material progress. Instead of being mere creatures of the whims of their rulers they were placed upon an equal footing with white men, and received by law a stipulated sum for each skin taken. So that about \$40,000 was annually divided among the inhabitants of the two islands. In place of the skin-clad natives living in turf lodges which I found on arriving on the island in 1869, I left them in 1877 as well fed, as well clothed, and as well housed as the people of some of our New England villages. They had school facilities, and on Sunday they went to serv-

ice in their pretty Greek church with its tastefully arranged interior; they wore the clothing of civilized men and had polish on their boots. All these results are directly traceable to the seal fisheries and their improved management.

UNDER AMERICAN CONTROL.—IMPROVEMENT.

Pages 142 and 143 of The Case.

During the six years I was on the islands the condition of the natives was wonderfully improved. When I came there they were partially dressed in skins, living in filthy, unwholesome turf huts, which were heated by fires with blubber as fuel; they were ignorant and extremely dirty. When I left they had exchanged their skin garments for well made warm woolen clothes; they lived in substantial frame houses heated by coal stoves; they had become cleanly, and the children were attending school eight months in the year. They were then as well off as well-to-do workingmen in the United States, and received much larger wages. No man was compelled to work, but received pay through his chief for the work accomplished by him. A native could at any time leave the islands, but their easy life and love for their home detained them. When I first went there the women did a good share of manual labor, but when I came away all the hard work was done by the men. I do not recall a single instance in history where there has been such a marked change for the better by any people in such a short time as there has been in the Pribilof Islanders since the United States Government took control of these islands.

In the matter of the preservation of the fur-seals these inhabitants [of the Pribilof Islands] should receive some consideration. Their ancestors were carried to the Pribilof group more than a century ago, and the majority of the present generation have been born and bred where they now live. They number at present about 350 people, who know no other home, and few of whom have ever seen any other land than the islands on which they live. They are a simple-minded, docile, good-natured people, far above the average aboriginal inhabitant of the country in intelligence, as indeed, might be expected of them in this generation, from the fact that the Aleutian blood in their veins is already very much mixed with that of a better quality from Russian and American stock. Very few, if any, thoroughbred Aleuts are to be found in Alaska at the present day. All are devout Christians and earnest believers in the faith of the Greco-Russian Church, observing all its outward forms, and practicing, perhaps, as many of the virtues it inculcates as the average adherent of orthodox Christianity.

Very little is known of these people under Russian régime in the early part of this century. If their traditions are to be relied upon they were hardly better off at this time than when in absolute barbarism. Their rulers were hard taskmasters and were themselves but meagerly supplied with such articles as would have materially helped the natives if they could have had them. They labored under the disadvantage of living in a cold, barren, treeless country and having to depend for building material upon the driftwood thrown upon their shores from the rivers emptying into Bering Sea. It was, therefore,

impossible for them to make much progress, no matter what the teaching or the example set before them may have been while living, as they were, in their damp, filthy subterranean houses; and more impossible for them to live otherwise than underground until they were furnished with fuel and building material.

These were never supplied by the Russians, and the Americans accordingly found them, upon the cession of the territory to the United States, living in miserable, unhealthy hovels totally unfit for human habitation. The supports for the thatched roofs and turf sides of their houses consisted of the pieces of driftwood or the jaw bones of whales; light was admitted through the opaque medium of raw sea-lion skins, stretched and shaved; the chimney was a hole in the roof, over which a skin was drawn to retain the heat after the fire went out; their fuel consisted of water-soaked splinters of driftwood, upon which was burned the blubber of the seal or whale, emitting the nauseous odors of burning, rancid, ill-smelling animal fats. The smoke from the fire left its greasy deposits upon everything about the premises and emitted a stench endurable only by a sense of smell long inured to it. For light in the long winter nights they had only a small burning wick supported upon the surface of an open vessel of seal oil. Their food consisted almost wholly of seal meat, with rarely a meal of fish or fowl, oftentimes eaten raw in summer, and dried or partially dried and stored in the inflated stomachs of sea lions for winter. A small quantity of rye was furnished them, but their facilities for putting it in edible form were of the most primitive kind, and to this was added a limited quantity of tea and sugar, tobacco and rum. Their clothing was made of skins or of such coarse cotton or woolen cloths as were imported in very limited quantities for their use.

The work which was exacted from the natives under Russian rule was much harder than has since been put upon them. The islands were provided with no teams of any description; the boats were rude affairs, built from pieces of driftwood, whalebone, whale sinew, and sea-lion skins; the storehouses, workshops and tools were ill constructed and inconvenient; all of the skins of the thousands of seals slaughtered each year were transported on the shoulders of the laborers from the field to the warehouses, a great amount of labor expended on each skin in cleaning and drying it, and all were again shouldered from the warehouses to the boats to be lightered to the vessels. In all this work men, women, and children participated, and each received the small stipend of a few kopeks per day or per skin, barely sufficient to pay for the tea, sugar, coarse clothing, and articles of domestic use supplied from the Company's store. Yet even this poor subsistence was furnished directly or indirectly from the seals, excepting a few edible roots and wild vegetables and an occasional fish or fowl at certain seasons of the year. There is absolutely no other source of subsistence at the seal island.

Since the occupation of the territory by the Americans such a change has taken place in the condition of the natives as occurs in the transition from barbarism to civilization; and such a change as has brought about them those material evidences of civilization which require for their support and maintenance a constant and assured income. The villages as viewed from the exterior are indicative of their present plane of living and are such as may be seen in the prosperous mining and manufacturing sections of our country, comprising attractive churches, well-designed school-houses, commodious storehouses, and comfortable dwellings, all built in regular order and painted white.

During the past twenty years the inhabitants have been constantly supplied with and become accustomed to the use of the same kind and quality of moral training, mental teaching, clothing, food, and medicines as are supplied to and habitually used by our most prosperous communities. If they must surrender these things it means for them a relapse into barbarism; and the destruction of the seal fisheries enforces the surrender. They have no other source of income and know no other business than that of seal-fishing. The income of the two seal-island communities, including only natives, has averaged, from 1868 to 1889, inclusive, more than \$40,000 per annum in cash, and, in addition, they have been furnished gratuitously with the houses they occupy, nearly enough fuel to heat them, medicines and medical attendance, school-houses, school books, and teachers. Their moral and mental improvement have very nearly kept pace with the material comfort with which they have been surrounded. The children have learned to read, write, and speak English, and in general intelligence and household economy all have made remarkable progress.

Is it true that people situated as these natives are acquire no vested right in the property whereon they have immemorially gained their livelihood, which the Christian nations of the earth ought to respect? If it is true, then the precepts of Christianity bear still another and new interpretation.

During my residence on the islands the native inhabitants were prosperous and contented. The profits resulting from the labor of killing the seals and salting and shipping the skins were not only ample to supply them with the needs of life, but with many of its luxuries. Those who were careful and provident in the matter of their earnings were enabled to and did deposit some portion each year of the same with the Alaska Commercial Company or in the banks of San Francisco.

The company furnished to each native family, without charge, a comfortable frame dwelling, employed a physician on each island, and supplied medicines and medical attendance gratuitously. It may be said, perhaps, that it was plainly in the interest of the company to faithfully carry out all of its obligations designated or implied by the terms of its lease. Such was undoubtedly the fact, but, in justice to the lessees it should be stated that they always interpreted their contracts in a most liberal spirit, and in many ways exceeded their obligations as far as their treatment of the native people was concerned.

They pay to these Aleuts 40 cents per skin or \$40,000 per annum for their services in taking the skins. They have also built for them a church and school-house, and maintain teachers and physicians on the islands.

At the time of the cession of Alaska to the United States these people were living in huts, or more properly holes in the ground, and had no ambitions or aspirations beyond supporting their daily existence in a painful and laborious way. Now they are living in frame houses provided for them by the company, and have accumulated savings, invested in United States bonds in San Francisco, amounting on August 1, 1887, to \$94,128.28. It is safe to say that no laboring men within the boundaries of the United States are better paid or better cared for.

THE SEALS.

CONTROL AND DOMESTICATION.

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The work of herding and managing seals does not differ materially from that pursued with the stock-farm animals with which we are most familiar. The herdsman has chiefly to learn their quick motions and propensity to bite in order to handle them at will. *W. C. Allis, p. 98.*

I tried to thoroughly train the young seals, hoping to make valuable pets of them, and succeeded as far as the taming went, but could not get them to thrive on cow's milk or the condensed milk of commerce, administered from a nursing bottle. They became, however, very tame, stopped trying to bite unless they were made angry by rough usage, and followed me about like pups of the canine species. When they are older and before they leave the island in the fall they may still be handled with impunity, and their habits are such of massing and herding by themselves apart from the older seals that all could be easily "rounded up" from the beaches in favorable weather, and "corralled" and marked. It would be perfectly feasible to drive them into and keep them in such a corral or inclosure as would be constructed for calves or lambs, surrounded by a fence 3 or 4 feet high, and while there to catch each one and brand him. This has already been successfully done on a small scale by naturalists who wanted to identify certain ones for a future purpose.

This is not mere theory with me, for I was bred to the management and handling of young domestic animals, and have handled the young seals, and have seen them handled by the natives in the same way.

They grow very tame when reared near where people are passing and repassing, and none of them are as wild or show as much fear as sheep ordinarily do when approached by man. *Jno. Armstrong, p. 2.*

Robben Island is very small, being 1,960 feet long by 175 feet wide, and in places 46 feet high. Of necessity the quarters of the seal hunters and guards, as well as the killing grounds, are very near the rookeries, being not more than 75 feet distant from them, yet the seals appear to take no alarm from the close proximity of the men, paying very little attention to persons passing and repassing a short distance from them. If none of them were killed, or if the killing were properly restricted to the males, I think they would increase very rapidly and be as closely subject to control as the cattle upon the great open pastures of the Rocky Mountain regions. There would be little trouble in catching all the young seals and branding or marking them. *Jno. G. Blair, p. 194.*

As proving that the seals return to the islands, I put a canvas collar upon a pup in 1880, and he came back to the same rookery in the following year still wearing the collar.

If they are managed right they may be driven like sheep along the beaches. They do not run fast on shore, unless alarmed, when they give a man a good race to catch them. *Wm. Brennan, p. 359.*

I was reared on a farm, and have been familiar from boyhood with the breeding of domestic animals, and particularly with the rearing and management of young animals; hence a comparison of the young seals with the young of our common domestic species is most natural. From my experience with both I am able to declare positively that it is easier to manage and handle young seals than calves or lambs.

Large numbers of the former are customarily driven up in the fall by the natives, to kill a certain number for food, and all could be "rounded up" as the prairie cattle are, if there was any need for doing so. All the herd so driven are lifted up one by one and examined as to sex, and while in this position each could be branded or marked if necessary.

If the seal rookeries were my personal property I should regard the task of branding all the young as no more difficult or onerous than the branding of all my calves if I were engaged in breeding cattle upon the prairies.

The same force that has heretofore been engaged on the Pribilof Islands in killing seals in the summer could easily drive up and brand, in a few days in the fall months, all the "pup" seals born on the islands.

During this first summer of their existence, after the breeding grounds have been broken up, it is possible to take possession of every pup on the islands and mark them so they could be recognized in the future.

The manner in which the seals were driven and killed seemed to me to be as good as could be adopted, and just such as any one would adopt who was accustomed to the management of farm animals. I was surprised to see how closely in nearly every respect the seal herds resemble droves of our domestic animals. Almost anything is done with them that we habitually do with our flocks and herds in farm life, except to feed them. They are started up from the beaches, collected in convenient sized droves, and driven by a very few men to the proper killing grounds, exactly as I would handle a flock of sheep; and, unless the weather was very hot and dry, seemed to me to suffer no more nor stand any greater risk of injury from driving than sheep would and do under similar circumstances. When they arrive at the killing grounds they can be kept in a yard or corral surrounded by an ordinary cattle fence; but, without the trouble even of building a fence, with a single keeper to watch them and a few pieces of board set up around them on which some strips of sack or old garments are hung, several thousand are herded and kept for hours, until the time, perhaps on the following day, for their slaughter. They grow very tame and tractable by repeated driving, and even the old bulls lose their fierceness and seldom turn upon their herders, particularly when brought in from the rookeries near the villages, where they become most familiar with man.

They seem never to be afflicted with any disease. The pups are always healthy, fat, and happy; the males too young for slaughter play about on the rookeries during the killing season and between the intervals of driving to the killing ground, galloping up and down the slopes or wrestling in good natured contest, as the young of other animals do when undisturbed, showing no signs of fear or timidity. The still younger seals, during their first few weeks, have so little fear of man that they may be picked up at any time more readily than young lambs;

and when a little older, after they have learned to swim, they come by thousands upon the beaches close to the village and may be driven up en masse and taken to a corral and impounded, or simply herded by a watchman and kept together for an indefinite length of time. When so herded they may be readily taken up one by one and marked by some mutilation, such as the cutting off an ear, as has been practiced on one or two occasions, I am told, for the purpose of identifying them afterwards, or by branding them. From my experience with both seals and cattle, I should as soon undertake to brand a lot of young seals as so many calves; and I believe by attempting it at the proper season, after the old seals have mostly left the island, and the young are "podding" by themselves, there would be no difficulty in "rounding up" simultaneously nearly all the young born in a single season and marking them for complete future identification.

Their habits of breeding are so nearly like those of domestic animals that one having them in control needs only to follow his experience as a shepherd or "cattleman" to cause them to become most prolific. He must keep all the females and kill off, as far as possible, all the surplus males above the number absolutely required for breeding purposes. I think these requirements were very exactly fulfilled by the late lessees of the seal fisheries during the time of my employment by them; and they are certainly able to point to the fact, unless I am grossly misinformed, that from 1870, when they first took hold of the business, up to the end of my service for them in 1884, the system pursued by them was as perfect as it could be and resulted in a steady increase of the seals. They failed only in omitting to take proper measures by branding or mutilation, as I have pointed out, to identify their property while pasturing in the ocean. The owner of a seal-skin with an ineffaceable brand on it would, even in a foreign country, I imagine, have some sort of property right which international law would recognize; and of his ability to mark nearly every skin with such a brand upon the live young animal I have not the slightest doubt.

If the seal were let alone in the water we could manage them so as to again build up the rookeries. We are so familiar with their habits and they are so accustomed to us that there is no difficulty in managing them so as to make them increase. They are easy to handle, the little pups are not shy of us, and even when they are older in the fall they can be handled much easier than sheep. I can manage seals better than I can some of the sheep brought on the islands and which I have been sent to catch.

Through all this slaughter, involving the driving and redriving, year after year, of the same seals, they did not become more timid when on land; but, on the contrary, *H. H. McIntyre, p. 52.* those resorting to the grounds most frequently disturbed were more tractable and easier driven and killed than the ones from remote points, as at Polovina or West Point, on St. Paul, or Zapadnie at St. George. The "killing gang" frequently spoken of, and I myself, observed the harder work in handling and subdividing the drove from the more distant places, because of the more savage, intractable character of the bulls.

I believe the seals to be susceptible of a high degree of domestication. If their strong propensity to bite whatever comes within offensive proximity, whether it be seal cub or a hunter's limb, could be cured, they could be as easily managed as a flock of sheep. Each one

of the young pups driven for the customary food supply before their first migration is picked up by the hind flippers to determine the sex, females even at this age being spared, and when thus in the hands of the hunters could be as readily marked or branded as any thoroughly domesticated animal. In fact, a large number were thus marked in 1872, by Special Treasury Agent Charles Bryant, by clipping the ear as a means of further identification. Every seal upon the islands has in this way been, or might have been, if we had so elected, within our very grasp, to kill or not to kill, to brand or not to brand, as we thought best, its skin having at the same time commercial value. I conceive that no further act of domestication is required to constitute under common law complete and absolute ownership, coupled, of course, with the right of protection of the property wherever found.

In respect to the propagation and perpetuation of the species, they are as controllable and amenable to good management upon the islands as sheep or cattle; yet the fact should not be lost sight of that both breeders and nonbreeders are, in the course of every season, completely in the power of the occupants of the islands, and the entire herd may be slaughtered to the immediate advantage of their possessors, if, by reason of international complications or any other cause, it is found desirable to exterminate them.

It was the custom each year just prior to the migration of the young seals to take a certain number, under supervision of the United States Treasury agent, for food of the natives during the winter, and as females were in no case killed a selection of male "pups" had to be made. This was done rapidly by catching each "pup" by the flipper, and upon releasing the animal, after examination, to send it with the males for slaughter or with the females for return to the sea. On such and on other occasions, seals were often marked or were noted as being marked by scars from fighting among the males; such marks were used to obtain data relative to their return to the island, and during the latter portion of my stay on St. Paul Island such marked animals were seen and identified in the herd or on breeding grounds.

These cases were sufficiently numerous to warrant my present belief that if such marking had been constantly practiced extensively, as might easily have been done precisely as in case of a band of cattle on the plains with all the young, it would have established their identity and completely shown that the seals do not find a home at any place other than that of their birth.

It is usually supposed that seals are like wild animals. This is not so. They are used to the natives and will not run far from them. The little pups will come to them, and even in the fall when they are older we can take them up in our hands and see whether they are males or females. We can drive the seals about in little or large bands just as we want them to go, and they are easy to manage.

I do not think it is any more trouble to manage the seal herd than it is to manage some of the herds of cattle I have seen in California, and of the two the seals seem to me tamer and less afraid of the natives, to whom they are accustomed.

We could now, as we always did in the past, handle the young pups in the fall.

I believe the American Government to be justified in assuming and maintaining the absolute proprietorship of the American seals. They may, I think, in the broad sense of the word, be regarded as domestic animals. They certainly possess qualities of a domestic nature which are susceptible of a high degree of development. During the first two or three months of their lives they are as gentle and docile as most domestic animals. They may be handled and petted, will accept food at one's hands, can be taught to follow one from place to place, and in various ways are amenable to intelligent guidance and training. Even at mature age they are subject to as much control as are sheep or cattle. They may be driven here and there at will; may be separated and driven together again; divided into groups or "pods," great or small, or be herded by thousands with less effort and trouble than bands of cattle are herded on the plains. They are far from possessing that excessive timidity which has been popularly attributed to them. They soon grow accustomed to the sight of man, and in the absence of offensive demonstration on his part quickly learn to regard his proximity with indifference. At no time can they be called aggressive animals, but if suddenly attacked and their escape shut off, they will snap and bite viciously. The rookery bull will defend his harem valiantly, and nothing less than superior physical force on the part of his adversary can dispossess him. To test his courage in this respect I have occasionally attacked him with clubs and stones, and, though his family were driven off or deserted him, he still held his ground and successfully resisted my utmost efforts to expel him from the rookery.

J. M. Morton, p. 69.

The career of the fur-seal herd on these shores is not unlike that of any domesticated animal—it is simply a stock-breeding question.

L. A. Noyes, p. 81.

Areas upon which it is agreeable for the females to breed are carefully reserved and set aside for that purpose.

Each year a sufficient number of breeding bulls are reserved for service on the rookeries. The utmost care is taken that the future of the herd is not jeopardized by the injury or death of a female.

So accustomed have the seals become to the presence of the natives that the timidity and shyness manifested in the ocean is not shown on the islands. In their infancy the pups will approach a native without fear, and later on they are readily handled and the sexes separated, should it be necessary to make a killing of pups for food. In the handling, management, and enlargement of the seal herd there is as much amenability to domestication as there is in a band of range cattle.

It has been said that man can do nothing to facilitate the propagation of the fur-seal. My experience does not support this. The reservation of females and the killing of the surplus males, so that each bull can have a reasonable number of cows, is more advantageous to the growth of the rookeries than when in a state of nature bulls killed each other in their efforts to secure a single cow.

J. C. Redpath, p. 152.

The same care can be and is exercised in the handling and management of the seal herd as is bestowed by a ranchman upon his hands of ranging stock, and is productive of like results. The seals have be-

come so accustomed to the natives that the presence of the latter does not disturb them. The pups are easily handled by the natives, and formerly, when used as an article of food, thousands of pups were actually picked up and examined, in accordance with Government requirement, to avoid the killing of a female. So easily are the seals controlled that, when a drive of "bachelors" is made to the killing grounds, a guard of two or three small boys is sufficient to keep them from straying, and from the general band any number from one upwards can be readily cut out. It is possible in the future, as it has been in the past, to reserve unmolested suitable areas to serve as breeding grounds; to set aside each year a proper number of young males for future service upon the rookeries, and by the application of the ordinary stock-breeding principles not only to perpetuate but to rapidly increase the seal herd.

I think he [H. W. Elliott, in his "Report on the Seal Islands of Alaska"] might, however, have made his description of the animals and the manner of obtaining their skins for market more intelligible to the ordinary reader by following more closely the analogy between the seals and farm animals, which invariably strikes the observer who is familiar with the rearing, handling, and slaughtering of both.

A farmer on going to the seal islands at once notices, as I did, that the term "seal hunting," so called, conveys no idea of the business of taking seals for their skins as it is there carried on. It is in no sense "hunting," the work of bringing in for slaughter from their accustomed haunts, and slaying such numbers of killable seals from day to day as will serve as a day's work for those engaged in the killing being in no way different from that pursued by the farmer in driving up his farm herd and selecting and killing such as he sees fit; the only difference being that, in the case of the seals, the pasture in which they feed is the broad ocean, out of which the seal farmer can not drive them. He must wait until they come on shore; but he can count with absolute certainty on their coming within his reach in due time, provided only their natural enemies oppose them and they are spared while at sea by their human enemies, who may, with perfect propriety, be termed "seal hunters."

The analogy can be further profitably followed by comparing the system usually pursued in breeding domestic animals with the methods adopted by the late lessees of the seal fisheries in preserving all the female seals, and enough males for breeders, and also in their manner of driving, yarding, herding, selecting for slaughter and for breeding, handling the young, and generally in the management of the herd; the exception in this respect being found chiefly in the fact that the seals, after they are a few months old, can not be manipulated with the hands, because of their propensity to bite, but must always be kept at arm's length by the herdman's seal club, in the use of which he becomes so expert that, without striking the seal or in any way injuring him, he protects himself most thoroughly against the snapping jaws and sharp teeth by which he is confronted.

Before the young seal leaves the island for the first time, in the year of his birth, he is less vicious, or less expert in the use of his teeth, and may be picked up by the flippers, or, if necessary, marked or branded; and at the proper season of the year I think 80 or 90 per cent of all the young could be brought up from the beaches and so dealt with.

I make these statements because I have heard it said that the seals are wild animals and can not be identified as belonging to any particular herd or rookery when off on the feeding grounds where they are captured by the marine seal hunters.

Every member of the entire sea herd of the island (except the new-born pups in the first three or four weeks of their life) had, when I was there, and, I understand, *S. M. Washburn, p. 155.* still has immediate money value; and the entire herd is, each season, as wholly and completely in the actual power and possessive control of the employés of the lessees as my father's cattle on his farm were in mine when I was a boy and he gave me charge of them. The only thing to prevent the immediate conversion of the entire herd into marketable skins, and so into cash, was the limit of the catch imposed by the terms of lease, unless, that limit being removed, the inhabitants were possessed of foresight and public spirit enough to preserve the herd for their own future profit or the future public good.

The seal has many traits of a domestic animal, and his birthplace is so certain a home for him that, in its habitable season, he does not need to be hunted, but can be found there as regularly as a farmer's cattle at night. To me it seems a pity to wastefully destroy his useful race when pasturing in the great oceanic international common.

When the seals are on the breeding grounds they are not easily frightened unless they are too nearly approached, and even then they will go but a short distance if *Daniel Webster, p. 181.* the cause of their fright becomes stationary.

I have often observed that the seals when on the islands do not take fright easily at the presence of man; and the natives go among them with impunity. They will *Daniel Webster, p. 182.* go into a herd of seals on the hauling grounds and quietly separate them into as many divisions and subdivisions as is necessary before driving them to the killing grounds. At the killing grounds they are again divided into bunches or "pods" of twenty or thirty each more readily than the same number of domestic animals could be handled under the same circumstances.

The bulls on the rookeries will not only stand their ground against the approach of man, but will become the aggressors if disturbed. Pups are tame and very playful when young, and, previous to 1891, when it was the practice to kill three or four thousand for natives' food in November, thousands of them were picked up and handled to determine the sex, for only the males were allowed to be killed.

PROTECTION OF FEMALES.

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It was the uniform policy of the lessees to carefully preserve and protect for breeding purposes all female seals; and, as their agent, I was instructed to exercise all *Geo. R. Adams, p. 157.* possible care and caution for the preservation of the female when driving or killing.

Females were never driven, except in a few cases where a barren one had hauled up with the bachelors, but I do not think in ten thousand females there is one barren. *Chas. Bryant, p. 8.*

As chief it is my duty to see that the rookeries are not troubled by anyone, to teach my people to obey the law and
Karp Buterin, p. 103. my young men how to drive seals to the killing grounds without injuring them. I know, and all my people know, that the Government told us we must not kill cows, and we never kill them.

The company agent says to me: "Karp, be careful that no cows are killed." I know, and we all know, if we kill cows the seals soon die out and we would not have meat to eat; and if anyone told me to kill cows I would say "No." If I or any of my people knew of anyone killing a cow we would go and tell the Government officer. The Government officer told us that the Government did not like to have cows killed, and that we should not kill any more pups because it was wasting seals, and that the Government would give us plenty of other meat instead of pup meat, and we all agree to that, and we have not killed any pups since. And all my people will do everything the Government wants them to do. If any of our men get bad and kill cows or pups or do anything bad I punish them and I bring them before the Government officer.

Our priest tells us to obey the law and do everything the Government asks us to do, and we are all pleased to do it. We all know that the food and clothes we are getting has been given us by the Government, because we are not killing any seals to earn money to buy things for ourselves, and we know it is the Government sends us plenty coal when we have no money to buy it.

After the cows scatter in August they mix with the bachelors, and a few will be driven when we drive seals for food, and sometimes one is killed by accident before the clubber knows it is a cow. If I knew that he killed it on purpose I would punish him; and if he did it again I would have him put off the island.
Karp Buterin, p. 104.

S. N. Buynitsky, p. 21. Under no circumstances is a female seal killed.

A female seal was seldom driven, not more than two a season on St. George, and I think they were in all cases barren cows, which had, because of their barrenness, hauled up with the bachelors.
Samuel Falconer, p. 162.

The killing season for skins takes place in June and July, and none but males are killed, and it is seldom that the cows are ever in the drives at this time of the year. Should a cow happen to get into one of the drives she is carefully separated from the rest, and permitted to go to the water. Later in the season, when food drives are being made, and the harems are broken up, a small number of cows are in the drives, but none are killed unless by accident. The natives who make the drives are very particular on this point, and nothing offends them quicker than to have a female seal killed. They are very careful in handling the seals, and seem to fully appreciate the necessity of preserving the seals as well as the laws relating to that subject.
C. L. Fowler, p. 25.

We know a cow seal on sight, and when we find one on the killing grounds we take care she is not injured. Very few cows get into the drives before the middle of August, and then we are only driving and killing a few hundred a week for food.

All cows killed on the seal islands are killed accidentally, and it occurs so seldom that I do not think there has been to exceed 100 since I came to the island in 1869. *Jno. Fratis, p. 108.*
So carefully has this been guarded that when we used to be allowed to kill pup seals in November we had to examine and separate the sexes and kill none but males.

Under no circumstances is it allowable to kill a female of any age. *Louis Kemmel, p. 173.*

When the cows first come to the islands they go on the breeding rookeries and remain there through June and July, excepting while they go out to sea to feed, and this is why very few cows are ever found in the drives made in those two months while we are killing for skins. In August the families are broken up on the rookeries and the cows scatter and mix up with the young males, and when we drive for food there are a few cows in every drive, but as it is unlawful to kill a cow seal on the islands we are careful that none is killed. *Jac. Kotchooten, p. 131.*

Our people are very careful about that, and if one is killed by accident they do not like it, and the chiefs report us to the Government officer.

Every native knows a female seal at sight, and, as the law against killing a female is strict and so rigidly enforced, and as the clubbers are the most experienced and most careful men on the island, it is very seldom that any female seal is clubbed. Our people have great respect for law and are always ready to obey any rules laid down by the proper authority, and they have been raised in the firm belief that it is wrong to kill a cow seal. No one knows better than the natives that our prosperity is in the protection of the seals. They are our food supply, and our earnings from taking the skins enable us to live comfortably. Should the company desire us to kill female seals every native in the village would be interested in having the Government officer know it. The instructions we have always received from the company was to be careful in driving and to never kill a female seal. *Aggei Kushen, p. 129.*

During the month of August the families break up and the seals scatter around, and some of the cows mingle with the young males and are driven along with them when we make a drive for food, and sometimes one or two are killed accidentally. It is so seldom that this occurs, I do not think that there has been more than about ten cows per year killed on St. Paul Island since 1870.

The skins taken from seals killed for food are salted and counted to the lessees on the quota of the following year, so that nothing may be wasted. When we were allowed to kill pups in November for food and clothing, we always picked out the males, because we were not allowed to kill female pups, and now we are not allowed to kill any pups at all.

Very few cows get into a drive before the middle of August.

Later in the season, when we are driving seals for food, a few cows get into the drives, but we are careful that they do not get hurt; we all know it is forbidden to kill a female seal at any time, and we do not want to have them killed and none are killed except by accident. *Nicoli Krukoff, p. 133.*

On some occasions a considerable number of bulls, nearly large enough for rookery service, and rarely a barren cow, were unavoidably gathered up from the beach and started inland with the herd. The greater part of these at first opportunity were segregated from the drove and sent back to the water. * * *

Female seals were very rarely included in the driven herd, and never killed except by accident.

There are many fines imposed at the Commander Islands for killing female seals, even by accident, and I am quite certain that the decrease in the number of seals thereon is not owing to the methods employed in killing. When a female is discovered in a herd while being driven to the killing ground she is carefully turned back and slowly driven to the water's edge, sometimes the work of several hours.

Since about 1835 the female seals have been invariably spared, and if the sealeries are to yield the best returns in future, the wise system under which they have been heretofore protected must be rigidly maintained. The habits of the animals are such, in the separation of breeders from nonbreeders when on shore, that this can be easily accomplished.

Q. Have you ever known the lessees to take female skins?—A. No. Any employé killing a female either intentionally or accidentally would be liable to a fine.

Anton Melovodoff, p.139. The killing of females is a crime on St. Paul Island, and our church teaches that it is a sin to kill one, and our people know that the death of a cow seal means one pup less for meat in years to come. Never since I came here in 1869 have I known of a cow to be killed unless by accident, and I think there has not been 10 cows killed out of every 85,000 seals killed every year from 1870 to 1889.

The bulls and cows being on the breeding rookeries all through June and July, while the killing of the bachelors for skins is taking place, there is no reason why a cow should be driven or killed in the two months named, and it is a very rare case to see a cow on the killing grounds at this time and still rarer to have one killed.

After the killing season is ended and the breeding season is over the cows do mix up with the bachelors on the hauling grounds, and they are often driven when we make a drive of seals to kill for food, and sometimes one or two is clubbed by accident. With this exception there are no cows or females ever killed on the seal islands.

On my first arrival in the Priblof Islands in 1868 several other vessels, representatives of different interests, were there for the purpose of killing seals; and the natives of these islands, called Aleuts, were nearly all employed by one or other of the vessels in the business of killing seals. I noticed that the natives always remonstrated whenever any female was killed and stated that that was forbidden, and I am in-

T. F. Morgan, p. 63.

formed that it always has been forbidden by the Russian Government. All the seals killed by me or under my superintendence, on the island, have been male seals, except in the case of accident.

Females might occasionally appear in the drove, but their presence was generally known and none were killed except by accident, which occurred very rarely. *Jno. M. Morton, p. 68.*

No female is ever killed, and it is very seldom a female is driven. *J. H. Moulton, p. 72.*

It is during these "food" drives in August, September, and October that an occasional female is accidentally killed. Being mixed with the "bachelors" at that time, some females are driven and accidentally killed. The killing of a female is the greatest crime known on the seal islands, and is never done intentionally. Of this I am most positive, for I know that every possible precaution has been taken to guard against it; and I believe there has not been one hundred females killed on St. George Island since 1880, if I may except some killed by poachers who were driven off before they secured the skins of the seals they had killed.

The most scrupulous care was always taken by all persons at the islands, including Government agents, the Alaska Commercial Company's agents, and the native chiefs and people, to spare and protect the mother seals, whether upon the rookeries or elsewhere on the islands; so careful were we in that regard that whenever a female seal happened to be driven up along with a herd of killable seals, or "bachelors," she was promptly distinguished from the males, never killed, but separated from the mass and allowed to make her way again to the sea. *H. G. Otis, p. 86.*

Statute law forbids the killing of the female seal, and nature regulates the matter so that there is no danger of their being driven or killed during the regular killing season, which takes place in June and July when all the "killing for skins" is done; and after all my experience here I am free to say that a small fraction of one per cent would represent all the females killed on the islands since they became the property of the United States. *J. C. Redpath, p. 149.*

The compact family arrangement so tenaciously adhered to during the breeding season becomes relaxed in August, and the females scatter, and a few of them mix up with the young males, and when the natives make a drive for food it occasionally happens that a female will accompany the males, and sometimes one or two may be accidentally killed. I use the word "accidentally" advisedly, because there is no good reason why the natives or the lessees should kill a female seal designedly, as the skin is of no more use or value (if so much), nor its flesh as good for food, as is that of the male. And, excepting accidents, it is a fact that no female seals are, or ever were, killed on the Pribilof Islands since American rules and regulations were established there.

No females are allowed to be driven or killed. *Thomas F. Ryan, p. 174.*

Only two females were ever killed, to my knowledge, by the natives in driving. I then made every effort to discover who had killed them, my object being to thoroughly impress on the minds of the natives and the agents of the lessees that the accident must not occur again.

W. B. Taylor, p. 176. I never saw but one female killed out of the 20,000 taken on St. George Island in 1881, and that was accidental.

George Wardman, p. 178. A female was never killed while I was on St. George, except by accident.

Every care is taken in driving the seals from the hauling to the killing grounds, and, during the regular killing season of June and July, there are no females driven because, at this season, they are upon the breeding rookeries and do not intermingle with the young males. If occasionally one does happen to be in the drive, great care is taken not to injure her; the law prohibiting the killing of the female seal is well understood by the natives, and they are thoroughly in sympathy with it. Even were I to request them to kill a female seal they would refuse to do it, and would immediately report me to the Government agent. I have known an occasional one to be killed by accident during the food drives late in the season when the males and females intermingle on the hauling grounds, but the clubber was always severely rebuked by the chief for his carelessness as well as by the Government and company officers.

My observation is that the number of female seals killed on the islands from all causes is too insignificantly small to be noticed.

It is a fact that none but male seals are ever driven and killed on the islands, and great care is taken to preserve a sufficient number each year to supply the breeding rookeries.

W. H. Williams, p. 94.

THE KILLABLE CLASS.

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(See also "Dependence on Alaskan Herd" under "The Seal-skin Industry.")

John Armstrong, p. 1. And comparatively few as old as five years come up with the droves to the killing grounds.

Kerrick Artomanoff, p. 101. Our people like the meat of the seal, and we eat no other meat so long as we can get it.

The pup seals are our chicken meat, and we used to be allowed to kill 3,000 or 4,000 male pups every year in November, but the Government agent forbade us to kill any in 1891, and said we should not be allowed to kill any more, and he gave us other meat in place of "pup" meat; but we do not like any other meat as well as pup-seal meat.

While the breeding grounds have been left undisturbed to their own career, the hauling grounds have alternately been the scene of drives for the purpose of killing. The immature bachelors form the bulk of the seals that

J. Stanley Brown, p. 16.

haul out upon these grounds, and of them only the 3 and 4 year olds are taken for their skins.

The only seals killed for their pelts are those immature males that haul out upon the hauling grounds remote from the breeding grounds, and the handling of them causes no disturbance to the breeding females. The number of bachelors permitted to be taken in any one season is entirely within the control of the Treasury Department, which control has been exercised during the past two years for the enormous reduction of the annual quota.

The seals killed on the islands for their skins are these bachelors, those of from 2 to 4 years old being carefully selected. *S. N. Bugnitsky, p. 21.*

The three-year-old male has meanwhile landed on the hauling grounds and is now of the most available age to kill for his pelt. *Samuel Falconer, p. 156.*

The bachelors are the seals which are killed by the lessees of the islands, the killable age being from 2 to 5 years; all seals which are not males or which are not of the correct age are separated from those to be killed, and allowed to return to the water. *Louis Kimmel, p. 173.*

We used to kill pups for food in November, and then we had to examine the sex and kill none but males. The Government has forbidden us to kill any more pups and we get other meat instead. *Nicoli Krukoff, p. 133.*

A suggestion was made to the Secretary of the Treasury in the fall of 1885 that some old bulls should be killed, but the Secretary declined to permit such animals to be destroyed. *Abial P. Loud, p. 38.*

The age at which the male seal should be killed for his skin to best meet the present demands of the market, is 3 and 4 years old. It is, of course, as with other animals, impossible to say in every case just how old a seal is, but in the large majority of cases an experienced seal-killer will determine with accuracy from the size of the animal, the growth of hair upon the neck, and the length and size of the canine teeth. *H. H. McIntyre, p. 58.*

The sex of the yearlings is not easily determined unless the animal is caught and examined. The shape, size, and color of the two sexes are very closely alike at this age. At 2 years old it is less difficult, and there is very little risk in assuming that all those found at this age with the nonbreeders are males, because all, or nearly all, the females at 2 years old consort with the breeding seals upon the rookeries. In the last two years of the Alaska Commercial Company's lease of the sealeries large numbers of 2-year-old seals were killed under my direction, but never, to my knowledge, any females of this age. *H. H. McIntyre, p. 59.*

The "bachelors" of from 2 to 5 years old are the only seals driven or killed on the seal islands by anyone or for any purpose; and the sensational stories told of how they are "tortured" on the drive have no foundation in fact. *L. A. Noyes, p. 82.*

After the regular season closes, in July, the natives kill, weekly, for food, from one to two hundred male seals whose skins are large enough to be accepted as part of the next year's quota.

L. A. Noyes, p. 83.

Thos. F. Ryan, p. 174. The seals which are "driven" and killed are bachelors between the age of 2 years and 5 years.

As to the manner in which the 100,000 seals, which furnish the annual quota of skins, are taken, Mr. Elliott says: *C. A. Williams, p. 544.* "By reference to the habits of the fur-seal it is plain that two-thirds of all the males that are born (and they are equal in number to the females born) are never permitted by the remaining third, strongest by natural selection, to land upon the same ground with the females, which always herd together en masse. Therefore, this great band of bachelor seals, or 'hollus ehickie,' is compelled, when it visits land, to live apart entirely, miles away frequently, from the breeding grounds, and in this admirably perfect manner of nature are those seals which can be properly killed without injury to the rookeries selected and held aside so that the natives can visit and take them, as they would so many hogs, without disturbing in the slightest degree the peace and quiet of the breeding grounds where the stock is perpetuated."

DISTURBANCE OF BREEDING SEALS.

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At no time during 1891 was there other than the greatest care exercised in protecting the breeding grounds from intrusion or molestation, precautions being taken that to a novice would seem excessive: nor could I find by the most diligent inquiry among the natives that there had been any deviation from these rules since the American occupancy of the islands, nor during that time had there been the killing of a female seal save by the rarest accident.

The "hauling grounds" of the young bachelors, which is usually somewhat removed from the "breeding grounds," is the only portion of a rookery upon which any intrusion is permitted.

During the entire time I was upon the islands the most stringent regulations were always enforced in relation to disturbing the rookeries in any way. The use of firearms during the season the seals were upon the islands was forbidden, and this was enforced by taking possession of the guns of the natives or by removing the locks and retaining them until the close of the season; also all dogs were, in 1869 or 1870, destroyed on the islands, and no others were allowed to be brought here.

Chas. Bryant, p. 8.

There were, while I was on the islands, stringent rules enforced on the islands as to the use of firearms, making noises, approaching the rookeries, etc. In fact every precaution was taken that the seals on the islands might not be frightened.

S. N. Buynitsky, p. 22.

All firearms were forbidden and never have been used on these islands in the killing and taking of seals. In fact, unusual noise even on the ships at anchor near these islands is avoided. *W. C. Coulson, p. 414.*

Visiting the rookeries is not permitted only on certain conditions, and anything that might frighten the seals avoided. The seals are never killed in or near the rookeries, but are driven a short distance inland, to grounds especially set apart for this work. I do not see how it is possible to conduct the sealing process with greater care or judgment.

The breeding rookeries were never disturbed in any way, and most stringent regulations were enforced to prevent their being molested. *Saml. Falconer, p. 161.*

The breeding rookeries are never disturbed in any way by the employés on the island and the most stringent rules are enforced against the use of firearms, allowing dogs upon the islands, or disturbing the seals in any manner. *Louis Kimmel, p. 173.*

Great care was always exercised in approaching the sealing grounds to disturb them as little as possible. *H. H. McIntyre, p. 49.*

In the process of securing the annual catch of seals for their skins, the breeding animals were very little disturbed. No one was allowed to molest them; dogs were banished from the islands. The use of firearms was forbidden. The rendering of oil from seal-blubber was stopped after the second year's trial, because the smoke and odor seemed to disturb the rookeries near the works, and every precaution was adopted which good husbandry could suggest for the perpetuation of the industry. *H. H. McIntyre, p. 51.*

Special precautions are taken not to frighten or molest the animals on the rookeries. Even fires are not permitted to be made where it is thought their light or sight of the smoke might alarm them. *Jno. Malowansky, p. 198 (Commander Islands).*

In all respects great care was taken to prevent the unnecessary harassment of any class of seals, whether old or young, male or female. The breeding rookeries themselves were never under any circumstances disturbed. *H. G. Otis, p. 86.*

Although the seals are comparatively tame after being on the land for a short time, and do not get scared so easily as is commonly supposed, the rules and regulations of the Treasury Department are very strict on the question of absolute protection to the seals on the islands, and the Treasury agents have always most rigidly enforced them. *J. C. Redpath, p. 150.*

It is unlawful to fire a gun on the islands from the time the first seal appears in the spring until the last one leaves at the end of the season; and in order to properly enforce this law the firearms are taken from the natives and locked up in the Government house, in care of the Treasury agents.

No person is allowed to go near a rookery unless by special order of the Treasury agent; and when driving from the hauling grounds the natives are forbidden to smoke or make any unusual noise, or to do anything that might disturb or frighten the seals.

The breeding rookeries are never disturbed in any way. The rule that "the use of firearms is forbidden between May 1 and December 1, except as permitted by the Government officer," was enforced while I was on the island. No dogs are ever allowed upon the islands.

Great care was always taken not to disturb the breeders; no one was ever allowed to go on the breeding grounds during the rutting season, all observations as to the habits being made from overhanging cliffs or some elevation in the vicinity of the harems.

During this period it has been my duty as a trusted employé of the lessees to observe and report, each year, the condition of the rookeries. My instructions were explicit and emphatic to never permit, under any circumstances, any practices to obtain that would result in injury to the herds. These instructions have been faithfully carried out by myself and other employés of the lessees of the islands, and the laws and regulations governing the perpetuation of seal life have been rigidly enforced by all the Government agents in charge of the islands.

The killing grounds are situated as near the rookeries and hauling grounds as is possible without having the breeders or bachelors disturbed by the smell of blood or putrefaction, and most stringent regulations have always been enforced to prevent disturbing or frightening the breeding seals.

NUMBER KILLED.

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(See also the tables under "The Seal-skin Industry—Dependence on Alaskan Herd.")

The number of bachelors permitted to be taken in any one season is entirely within the control of the Treasury Department, which control has been exercised.

The seal being polygamous in habit, each male being able to provide for a harem averaging twenty or thirty members, and the proportion of male to female born being equal, there must inevitably be left a reserve of young immature males the death of a certain proportion of which could not in any way affect the annual supply coming from the breeding grounds. These conditions existing, the Government has permitted the taking with three exceptions up to 1890 of a quota of about 100,000 of these young male seals annually. When the abundance of seal life, as evidenced by the areas formerly occupied by seals, is considered I do not believe that this could account for or play any appreciable part in the diminution of the herd. * * *

For some years past the natives were permitted to kill in the fall a few thousand male pups for food. Such killing has been prohibited.

In 1889 it was quite difficult for the lessees to obtain their full quota of 100,000 skins; so difficult was it, in fact, that in order to turn off a sufficient number of four and five year-old males from the hauling grounds for breeding purposes in the future, the lessees were compelled to take about 50,000 skins of seals of one or two years of age. I at once reported this fact to the Secretary of the Treasury and advised the taking of a less number of skins the following year. Pursuant to such report the Government fixed upon the number to be taken as 60,000, and further ordered that all killing of seals upon the islands should stop after the 20th day of July. I was further ordered that I should notify the natives upon the Aleutian Islands that all killing of seals while coming from or going to the seal islands was prohibited. These rules and regulations went into effect in 1890, and pursuant thereto I posted notices for the natives at various points along the Aleutian chain, and saw that the orders in relation to the time of killing and number allowed to be killed were executed upon the islands. As a result of the enforcement of these regulations the lessees were unable to take more than 21,238 seals of the killable age of from one to five years during the season of 1890, so great had been the decrease of seal life in one year, and it would have been impossible to obtain 60,000 skins even if the time had been unrestricted.

It is an indisputable fact, and known to the most ordinary breeder of domestic animals, that any surplus of males is a positive injury, and results in a progeny inferior in size, quality, and numbers produced. The fierce struggles of the surplus male seals to gain a foothold on the breeding grounds create great disorder and commotion, and often end in crushing the pups, and sometimes even in killing the mothers. This was so well understood by the Russians that long before the cession of Alaska they ordered the slaughter, we are told by Veniaminof, of the superannuated males, in order to clear the way for vigorous stock.

During those years the sealing season commenced about June 1st to 4th and closed invariably before the 20th of July, so that the disturbance to the herd was confined to the shortest possible period of time and reduced to the minimum. The effect of this was of course most excellent. In addition to which fact the skins were always in prime condition during that period; whereas, later on, the "stagey" season commences, when the skins are inferior and not marketable.

The practice formerly prevailed of permitting the native people to kill a very considerable number of four-months' old pups for food. This was done about November in each year, the numbers so killed being 5,000 on St. Paul Island and 1,500 on St. George Island. After observation and study, I satisfied myself that the number of pup seals so killed might properly be diminished somewhat, although it could only be done against strong opposition on the part of the native people, who are specially partial to the meat of pup seals, claiming that for purposes of salting and preservation for winter food the meat of the older seals is unfit. I, however, restricted the killing of pups to 3,000 on St. Paul Island and 1,000 on St. George Island, upon the condition and agreement on the part of the Alaska Commercial Company, which also

avored the restriction, that it would supply to the native people, in lieu of the pup-seal meat taken away, a sufficient quantity of corned beef and canned milk to satisfy the wants of the inhabitants. Deference was always paid to the wants and the fixed tastes of the native people and their families in this matter of supplying young seal meat for their subsistence, for the reason that the entire seal industry at these islands has always depended in so large a measure upon the skill and labor of these people, who have invariably been employed to take the skins, and have no other occupation whatever.

It has been said that man can do nothing to facilitate the propagation of the fur seal. My experience does not support this. The reservation of females and the killing of the surplus males, so that each bull can have a reasonable number of cows, is more advantage to the growth of the rookeries than when in a state of nature bulls killed each other in their efforts to secure a single cow.

Prof. H. W. Elliott says, in his report of 1874, that: "With regard to the increase of seal life, I do not think it within the power of human management to promote this end to the slightest appreciable degree beyond its present extent and condition in a state of nature."

If he means by the words "in a state of nature," a condition in which no slaughter is allowed, I quite agree with him; but I do not agree that the increase can not be aided by killing surplus bulls. When herded in common pasture, the greatest number of progeny from our domestic animals will unquestionably be brought forth and live to adult age if a large portion of the males have been killed or castrated. The same no doubt holds good with respect to seals. It is only when, as in the case of the seals, that the mothers and young offspring are slaughtered that the increase is checked.

MANNER OF TAKING.

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(See also "Driving," "Overdriving and redriving," "Improvements over Russian methods of taking," and "Killing.")

The present system of taking seals on the islands in vogue and practiced by the lessees under governmental supervision is, in my opinion, the best that can be devised for building up and perpetuating this great industry.

I became very familiar with the methods employed by the natives in taking the bachelor seals, which are the only ones killed on the islands, and I do not believe any improvement could be made in the methods.

Sealing on Robben Island, in the Russian group, was prohibited for a period of five years for the purpose of encouraging the increase of the herd, but their propagation was interrupted by the frequent attempts of poachers to raid the rookeries, and I believe that 4,000 or 5,000 seals were killed by the marauders while we were attempting to promote the growth of the herd.

I have heard it said that the seals are slaughtered indiscriminately on the seal islands, and that the natives take no care of the seals. The contrary of this is true. *Anton Melovedoff, p. 142.* Rules could hardly be made any more stringent than the rules laid down by the Government and company officers for the care and management of the seals, and no people could be more careful in obeying them in letter and spirit than what ours are.

In 1871 I visited the islands and directed the policy and practice to be pursued under the lease. In this pursuit I of course became conversant with all the details of the business. Under the Russian régime upon the Commander Islands prior to 1868 the number of seals taken annually did not exceed about 5,000, the skins of which were dried for market. *Gustave Niebaum, p. 202 (Commander Islands).*

The methods employed in taking the skins are, *Daniel Webster, p. 183.* in my opinion, the best that can be adopted.

DRIVING.

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I was also instructed to use the greatest care and caution in driving and killing the bachelor seals in order not to injure those not wanted for their skins, but to drive them back from the killing grounds into the sea. *George R. Adams, p. 157.*

The same care was exercised in cutting out the drove of "bachelor" or killable seals from the borders of a rookery and in bringing them up to the killing ground. Active young men were selected for this service, and placed in charge of a chief, whose orders they implicitly obeyed. *W. C. Allis, p. 97.*

The driving was done mostly in the night, and in dry or warm weather was a slow and tedious process; yet the men were very patient with their charge, moving them only at such rate as they could go without becoming overheated, and taking advantage of every stretch of moist ground or pool of water to cool them off, and sometimes going themselves in the water up to their necks in order to give the animals a cold bath and take them out of the water and continue the journey. Any representation that the seals were overdriven or overheated, to their subsequent injury, is drawn from the imagination. Sometimes a drove would be caught upon a dry stretch of ground in unusually warm weather, and a few of them perish, but this did not often happen.

The driving and killing of the bachelor seals was always carried on in the most careful manner, and during my stay upon the islands there was practically no injury caused to seal life by overdriving, and after 1873, when horses and mules were introduced by the lessees to transport the skins, the seals were not driven as far, killing grounds being established near the hauling grounds, and the loss by overdriving was reduced to the fraction of 1 per cent. * * *

In all cases, at suitable intervals and before driving to the killing grounds, the herd was halted and the males of 5 years old or older were allowed to escape.

All the drives are under the care of the chief, and my men never drive too fast. No drive on St. Paul Island longer than 2 miles. We never make more than two drives from the same rookery in one week. * * *

No seals are injured by driving, for we drive very slow and only when the weather is cool. Once in awhile one may be smothered and we skin it and count the skin along with the others.

In a "drive" the natives drive the seals from the hauling grounds a little way, separate the young killable males, and allow the remainder to return to the water or the hauling grounds. Then these young males so selected are driven to the killing grounds and there dispatched with clubs. During the entire time I was on the islands I never saw a single seal killed by overdriving.

The driving of the male seals to the killing grounds was done very carefully. If the weather was warm or dry they were allowed frequent opportunity to rest. I am sure the driving did not hurt them in the least.

Under the direction of Mr. Redpath on St. Paul, and Mr. Webster on St. George islands, men who have superintended this work for many years, the natives do the driving, and the killing is performed under the supervision of the Government agents. The natives understand just how much fatigue can be endured by the seals, and the kind of weather suitable for driving and killing; no greater precaution in that regard can be taken. The evidence of this is in the small percentage of animals injured or overheated in these drives. I do not believe the animals are much frightened or disturbed by the process of selecting the drives from the rookeries, nor do I think it has a tendency to scare the animals away from the islands.

I have often observed the driving and killing of the seal on the islands by the former lessees, the Alaska Commercial Company, and I know the company required the seals to be handled with great care, and that the instructions from the company were to that effect and rigidly enforced.

While I was on the island I became familiar with the methods of driving and handling the bachelor seals pursued by the natives, who were the only persons who ever drove, handled, or killed these seals. I am positive the methods can not be improved upon. * * *

The greatest care was always taken not to overheat the seals in driving them, and when a seal was by accident smothered the skin was removed and counted in the number allowed to be taken by the lessees. There were not, to the best of my recollection, twenty-five seals killed during any one season on St. George by overdriving.

Whenever the sun came out while a "drive" was in progress the driving at once ceased, so great was the care taken not to overheat the seals.

I have driven seals from all the rookeries and under the directions of several chiefs, and I know the orders were always very strict about the care we must take of the seals on the road. No drives were made in warm weather; the seals were not hurried, but every once in awhile they were allowed to stop and rest. The men who did the driving were relieved from time to time, so that no man should get too cold on the drive, and when the sun came out warm the drive was always abandoned and the seals allowed to go into the sea. I never saw the seals overdriven or overheated, nor have I ever seen a seal die on the drive, except one or two occasionally smothered.

The drivers carry their knives along, and when a seal dies they skin him and the skin is brought to the salt house and counted in with the others.

An overheated seal would not be worth skinning, and for that reason the company agent is particular that the seals are not overheated. I have clubbed seals, too, and at present I am a regular clubber.

The driving from the hauling grounds to the killing grounds was always conducted with the greatest care; was done at night or very early in the morning, slowly and with frequent rests, so that the seals might not become overheated. During the killing the merchantable seals were always carefully selected. No females were killed, except, perhaps, one or two a season by accident, and the remainder of the herd were allowed to return to the water or hauling grounds. Very few seals were killed in a "drive," and the skins of these were, in nearly every case, retained and counted in the quota allowed to be taken by the lessees. The number of seals killed in this way could not possibly have affected seal life on the island. I never saw or heard of a case where a male seal was seriously injured by driving or redriving; and I do not believe that the virility of males driven was destroyed by climbing over the rocks or affected in any way by driving. Certainly the reproductive powers of male life on the islands were never decreased or impaired by these methods.

Another fact in this connection is that the lessees located the killing grounds as near the hauling grounds as seemed to be prudent without disturbing the breeding of the rookeries; that boats and teams were provided for transporting the skins to the salt houses from the killing grounds, thus avoiding long "drives."

The methods employed in handling the drives are the same identically as of twenty years ago. The same methods were observed when I first went to the islands, and were in vogue during the period that I referred to as an actual increase in seal life, and have been continued up to the present times. There is nothing different, except the enormous increase of vessels and hunters engaged in pelagic sealing in Bering Sea.

The killable seals, after being separated from the remainder of the herd, are driven by the natives to the killing grounds. After every "drive" that took place while I was on the island I went back over the ground along which the seals had been driven to see if any seals had been killed by overdriving. The entire number of seals killed in all

these "drives" did not exceed one hundred, and the majority of them were killed by the large seals crushing the smaller ones to death. In every case of a seal being killed on the "drive," I, as Government agent, imposed a fine in order that they might be more careful in the future.

And I remember when I was first rated a man, some twenty-three years ago; it was when Kerriek Buterin was chief, and he used to follow us up when we went to drive seals, and tell us to walk along as slow as we could, so as not to tire the seals or worry them in any way.

When we used to kill 85,000 seals in two months we had to work hard, and we had to go out at night to drive, so that the seals should not be hurried, nor driven in the daytime when it was warm. In those days seals were driven from Halfway Point to the village, when the ground was wet, a distance of about 6 miles, and we used to start the drive at 6 o'clock at night, and get into the village between 6 and 7 o'clock next morning. * * *

The drives are always made by our own people, under the direction of the chiefs.

Copper Island is some 30 miles long and from 1 to 3 miles wide. The rookeries lie on the easterly and the village and killing grounds on the westerly side of the island. Between the rookeries and the killing grounds a continuous ridge, ranging from a few hundred to 2,000 feet in height, runs the whole length of the island. Over this ridge, at a point where it reaches about 600 or 700 feet in height, all the seals are driven, the journey requiring from five to twenty-four hours, depending upon the weather. The practice of thus driving them has been pursued ever since the earliest history of the business. Many of the seals are repeatedly driven and redriven over this trail in a single summer, but I have never seen any injury to them from the exertion to which they are in this way subjected. The statement of an expert that the virility of the seal is sapped and his powers of reproduction in any way weakened by such redriving is not borne out by the facts. On the contrary, the steady and rapid increase of the herd at Copper Island, already pointed out, again proves the old adage that in this matter, as in others, "theory is everywhere good except in practice."

The driving is all done by our own people under direction of the chiefs and we never drive faster than about half a mile in one hour. We very seldom drive twice from one rookery in one week. * * *

I never saw a seal killed by overdriving or by overheating; odd ones do die on the drives by smothering, but their skins are taken by the company and are counted in with the others.

I have been told that there are persons who claim we are not careful in driving seals and that we kill them regardless of sex. These statements are not true. I have taken my turn at driving seals from the hauling to the killing grounds every year since 1870, and I know the driving is very carefully done. When I first came here seals used to be driven from Halfway Point to the village, a distance of about 6 miles; and from Zapadni to the village, a distance of nearly 5 miles. Wet, or very damp, cool weather was chosen for such drives, and we started the drive

at or about 6 o'clock at night and driving all night reached the village at from 6 to 8 o'clock next morning.

Half a mile in one hour was about the rate of speed on such drives in favorable weather and I do not know of any drives of over two miles where we ever went at a greater speed. * * *

The seals are never driven at a greater speed than one mile in three hours; and the men who do the driving have to relieve each other on the road because they travel so slowly they get very cold.

In a very large drive a small seal may be smothered, but that does not injure the skin, which is taken and salted and counted to the lessees; and the greatest number I ever saw die on the drive was twenty out of a drive of about nine thousand seals, and the twenty skins were good and were accepted as "first-class."

While I was on the islands I attended nearly every "drive" of the bachelor seals from the hauling grounds to the killing grounds, and these "drives" were conducted by the natives with great care, and no seals were killed by overdriving, plenty of time being always given them to rest and cool off. A few were smothered by the seals climbing over each other when wet, but the number was very inconsiderable, being a fraction of 1 per cent of those driven, and did not to any extent affect the seal life on the islands. The greatest care was always taken to avoid overdriving both by the Government officers and employés of the lessees. *Abial P. Loud, p. 38.*

That during my experience I have watched carefully the driving of the bachelors from the hauling grounds to the killing grounds; that there has never been any variation in the methods of driving; that the prevention of injury to the seals from driving was kept constantly in mind and the greatest care exercised that no such injury occurred; that the number of seals killed by overdriving or by smothering was very inconsiderable at all times, and that said seals so killed could not make any appreciable difference in the number of seals who breed and haul upon the said islands; that up to 1882 there was no difficulty in procuring the required number of killable seals. *H. H. McIntyre, p. 45.*

The drove was frequently allowed to rest, and whenever practicable driven through some of the numerous ponds, or across marshes, to keep them cool. Generally the loss of life from the "drive" was very small, amounting, after the first two or three years, to only a fraction of 1 per cent of the number killed. And nearly all that perished on the road were skinned, and the pelts counted in our annual quota. *H. H. McIntyre, p. 49.*

In describing the habits of the seals it has already been pointed out that the "bachelors," or killable seals, haul out upon the land separate and apart from the breeding rookeries, and it follows that they may be herded together and driven in from the beaches to the killing grounds without in the least disturbing the breeding seals. During the killing season, beginning the 1st of June, or as soon as the seals arrive thereafter, it is customary for the superintendent to ascertain the day before a drive is to be made where the killable seals lie, and to instruct the chief in the evening in regard to the work for the following day. *H. H. McIntyre, p. 54.*

At daybreak, about 1 or 2 o'clock in the morning, the chief calls a sufficient number of men, usually from six to twelve, and leads them to the designated beach. They approach the hauling ground as noiselessly as possible, keeping to the leeward of the seals until a point is reached whence the "run" is to be made, when, at the word, all move at the top of their speed along the edge of the surf and take intervals, like a skirmish line of soldiers, between the seals and the water, at the same time making such demonstrations by swinging the arms, flourishing caps and coats, or beating bones or sticks together as to alarm the animals and cause them to rush inland. The drove is quickly collected and brought together in one mass. When it has moved a short distance from the water it becomes perfectly manageable and is then divided into detachments of 500 to 1,000 seals; each detachment is placed by the chief in charge of a trusty man, who, aided by two assistants, one on each flank and himself in the rear, brings his drove along toward the killing grounds at a speed varying from a few rods to a mile an hour, in accordance as the weather may be hot and dry or moist and cool. If the chief is efficient and properly instructed, the seals are at the killing ground by 5 or 6 o'clock in the morning, and are given an hour or two to rest and cool before the gang turns out after breakfast for the day's work.

The longest drive made during recent years is that from English Bay to the village on St. Paul Island, about $2\frac{1}{2}$ miles. * * *

In driving, advantage is taken of every snowbank, small lake, or stretch of marshy ground to rest and cool the drove; and if very hot and dry or the sun breaks out, it is kept in a cool place until the conditions change. Sometimes the practice of driving the seals in the afternoon and evening of the day before they are to be killed has been followed. In this case one herdsman through the night is sufficient to prevent their escaping.

The fur-seals do not travel on the land with that ease of locomotion characteristic of purely land animals, but on the other hand, they move with great freedom compared with other species of seals. Their enforced action on the drive is, as a rule, but little more violent than they voluntarily take upon the rookeries when moving up and down the slopes and playing with each other.

There are generally in each drive a few bulls, full grown or nearly so, too large for killing, and occasionally a dwarf or sickly seal and rarely a female, all of which are segregated from the mass as soon as possible and left behind to find their way back to the water. Much depends in driving upon the good judgment of the man in charge as to when and how long they should be allowed to rest, and in keeping the herd spread out so as to prevent the animals from huddling together and crowding. With proper management, the loss from driving is but a fraction of 1 per cent, and nearly all are skinned and the skins counted as a part of the annual quota. The animals that are found unfit for killing and are allowed to return to the water to be repeatedly driven later in the season, suffer, in my opinion, no injury. I have seen it stated by theorists with little or no practical experience, that the exertions to which the seals are subjected on the drives is unusual and excessive; and they infer that it must injure the animal's reproductive usefulness. With more extended observation and experience they would discover that such is not the case. The best practical illustration of this fact is found on Copper Island of the Commander group where, for the past twenty years or more, it has been customary to drive nearly all the seals over a very rough mountain trail across the island, and to practice the same

methods in the killing that we have pursued at the Pribilof Islands, with the result of constantly and healthfully increasing the herd. That seals are occasionally injured or lost by improper handling is no sufficient reason for abandoning a system of management which proves satisfactory when properly administered. These theorists apparently find it very easy to criticise the management of the seals without suggesting any way in which to improve it.

The erection of "salt houses" at suitable places for curing the seal skins was one of the earliest works undertaken, and several were erected at points convenient to *H. W. McIntyre, p. 137.* the largest "hauling grounds." In addition to this teams were furnished and skins hauled to the salting places or, in other instances, they were taken by boats, as most convenient.

In this manner the necessity for long drives was obviated and the work made easier in all respects.

The polygamous habit before mentioned naturally results in forcing the young male seals to "haul" from the sea by themselves, which renders their capture less difficult, as they may be driven without disturbing the breeding seals with their young. Seals to be killed were usually, and as a rule, driven at night or very early in the morning when the grass or ground was moist with dew or during the prevalence of fog, and was leisurely performed under direction of experienced hunters, hence the animals were spared the fatigue of traveling on dry ground at unwonted speed.

When not being driven their movements on land are in nowise uncertain or distressing, and they are frequently seen journeying of their own volition from one "rookery" or "hauling place" to another at considerable distance, especially when singly or in small groups; they catch on a strong wind the scent of a herd at a remote point and set out to join it. In connection with the work of driving the seals at frequent intervals it was of special interest to observe that they became less wild or timid, and consequently could be managed more easily in herd.

The driving grounds on Copper Island are very rough and hilly and much more difficult to drive over than those on the Pribilof Islands. The drives are always *Jno. Matowansky, p. 199* carefully made, slow, with a chance to rest, and *(Commander Islands.)* foggy days are selected. I have never been able to discover any injury to the herds from these drives, nor do I believe there is any. The killable seals herd by themselves, and until recently we did not drive from all the hauling grounds, but this we have had to do in the last three or four years, because the seals were getting scarce as the result of hunting them at sea.

No one ever said in those days [before 1868] that seals were made impotent by driving, although long drives had been made for at least fifty years: * * * *Anton Meloredoff, p. 142.*

When I first went on a drive I remember how the chiefs talked to me about being careful of how I went on the hauling grounds; how I must not disturb the breeding *A. Meloredoff, p. 142.* rookeries, and that I must walk as slow as I could when driving, and stop and let the seals rest occasionally.

I believe the same instructions were given at all times by the chiefs to our people, and I think they have been generally very faithfully obeyed.

I know that as long as I can remember the driving of seals has been the most carefully done work on the island, and all the drives have been done by our own people, under the immediate orders of the native chiefs.

S. Melovidor, p. 145. The aim at all times of all concerned has been to care for and guard the seals, and to do everything possible to preserve and perpetuate seal life. We were always instructed by the chiefs to drive slowly, and to let the seals stop and rest occasionally, and if a cow happened to join the drive, we had to allow her to drop out and return unmolested to the water.

It has been the policy and practice of the lessees to do everything that could be done to shorten the length of the drives whenever it could be done without injuring or disturbing the breeding rookeries, and to this end salt houses have been built, teams and wagons or boats used so as to reduce the longest drive on St. Paul Island to not to exceed 2 miles. Never since 1879 has a seal been driven on this island to exceed that distance. In like manner rules have been made and rigidly enforced that no hauling grounds shall be driven from oftener than twice in any one week, and it is a rare thing to drive more than once a week from the same place.

Simeon Melovidor, p. 146. There is no foundation in fact for the stories told of overdriving of seals.

The North rookery of Bering Island is in every way rougher than any I observed on the Pribilof Islands. I saw two of the drives from the North rookery. One of the routes leads over the rough rookery, through the shallow lagoon, and up the bluff at a place where the angle is about 35° to the grassy plain in front of the temporary dwellings of the natives, a distance in all of about a quarter of a mile; the other leads up the bluff from the sand beach at the western arm of the rookery, out beyond and back of the settlement, over a comparatively level but marshy and broken country, to a distance of from 1½ to 2 miles. I consider these drives harder and rougher than those of the Pribilof Islands. The killing ground at the terminus of the shorter drive is small and did not appear to be used to any extent. On June 4th, 1892, I landed on and photographed Polatka rookery, on the western coast of Copper Island. This is somewhat similar to the North rookery of Bering Island, but is very much narrower, and instead of being composed of loose rock heaps is largely of great tilted masses of stratified volcanic rock with very sharp and jagged edges. It is less than a mile long and at the widest part, including the outlying rocks, not more than 300 yards in width, measuring right up to the base of the bluffs. It lies at the foot of abrupt cliffs from 600 to 800 feet in height along its whole length, with the exception of one point. This is about the center of the rookery, where there is a small hill of hard-packed sandy soil about 60 feet high, back from which a very steep ascending ravine leads to the summit of the ridge, an elevation of about 700 feet.

The drive from Polatka rookery leads up over this sand hill and through the ravine; over the ridge, I was informed, the rest of the 2 miles is on a descending grade to the other side of the island, where the killing ground is located. The rocks of this rookery also did not have the appearance of being flipper-worn. There were no signs of vegetation on the entire rookery, and no soil apparently, except on the sandy hill at the mouth of the ravine. I estimated about 250 fur seals

on Polatka rookery, about 30 of them bachelors. I saw no cows, and think they had not yet arrived, as 40 codfish were landed on the decks of the *Albatross*, where she lay within 500 yards from the shore, in an hour. I think if feeding cows had been about the rookery, the fish would not have been found so close to it. From an elevated position on Polatka, I obtained a good view of the rookery next above it, called Pestehanni. The character of this is similar to Polatka, but has a sand beach adjacent to it where the bachelors doubtless mostly herd. The drive from here, as I was shown it, leads up a shallow stream a short distance, and then over the mountain side to the ridge, a height of fully 800 feet, from whence it continues down to the opposite side of the island. Both of these drives on Copper Island are exceedingly hard and rough; I know of none on the Pribilof Islands to compare with them.

The slaughter of animals for their skins was always conducted carefully and systematically, and in accordance with wise regulations looking to the proper protection and conservation of the seal life. The killing of females was prohibited, and, fortunately, a strict adherence to the law in this respect was entirely practicable by reason of the fact that the "bachelors" or killable seals occupy positions on the islands separate and apart from the breeding animals, so that the latter were never disturbed in the drove. There were often driven to the killing grounds at the same time as many as two or three thousand seals, from which were selected without difficulty such animals as were suitable for slaughter, while all others were allowed to return to the water.

* * * * *

In the matter of driving, great care was exercised to prevent overheating and exhaustion on the road, and the loss of animals in this respect was very slight. I may state here that I have never seen any evidence that the seals derived any material injury from their overland trip to the killing grounds. It has, I believe, been claimed by some one writing on the subject, that the large seals which have been thus driven, and subsequently in the culling-out process dismissed from the herd and permitted to return to the water, suffer a loss of virility or the power of procreation by their journey. Such statement seems to me to be puerile and altogether unworthy of serious consideration. As I have said, the driving was done carefully, and without undue haste, and while an animal might occasionally succumb to the heat of an unusually warm day, as a rule the physical exertion called for on the part of the seals on these enforced journeys was not greater than they customarily put forth in their voluntary ramblings over the dunes and rocks of the islands. Indeed, the mortality among the seal life from whatsoever cause, outside of that incident to the killing of the animals for their skins, was always surprisingly small, and could not have affected the rookeries in any appreciable manner.

While on the islands I observed with great care the manner of driving and handling the young male seals allowed by law to be killed for their skins, and I am convinced the methods now in use on the islands can not be improved upon, and especially because all the driving is done by the natives, who from generation to generation have made this their only business, being trained up to it from boyhood. Every pre-

Jno. M. Morton, p. 68.

J. H. Moulton, p. 72.

caution is taken in driving not to overheat or weary the seals, frequent rests being had, and a "drive" never being undertaken when the sun was shining; if the sun came out unexpectedly during a "drive," the animals were at once allowed to return to the water.

Very few seals die during a "drive," amounting to a very small fraction of 1 per cent of those driven, and in nine cases out of ten of those accidentally killed in this way the skins are saved. I never saw or heard of a seal being injured seriously by driving or re-driving. I have seen the hind flippers in a few instances a little sore, but never in all my experience have I seen an old sore on a seal. I am positive the reproductive organs of every one of the hundreds of thousands of seals I have seen driven were uninjured by their movements on land, and I am further convinced this must be so from the fact that a seal when moving on land raises himself slightly on the hind flippers, so that his reproductive organs are clear of the ground. Even if a seal was driven twelve successive days for the average distance between a hauling ground and a killing ground, I do not believe its virility would be at all impaired.

The result of my observations of the methods of driving the seals from the hauling grounds to the killing grounds
S. R. Nettleton, p. 76. is that a very small fraction of 1 per cent of the seals die from being overdriven or from being overheated in driving.

When necessary to make a drive for skins from any given rookery the local agent of the lessees informs the Treasury agent, and obtains his permission to make the "drive." No seals are driven without the consent of the Treasury agent in charge of the island. All being ready, the native chief takes a squad of men to the hauling ground, where the seals are quietly surrounded without disturbing the breeding rookery, and they are then driven slowly along to the killing ground.

Since the improved methods of 1879 there is no drives of greater length than $2\frac{1}{2}$ miles, and the majority of them do not exceed 1 mile. So carefully and so slowly are the drives made, the men driving are relieved every hour, because of the slow motion they get chilled on the road.

Orders were issued by which the driving is regulated in such manner that no hauling grounds are molested or disturbed more than another, and, being taken in rotation, the seals are allowed several days rest between drives. The rules for driving are so strict, so rigidly enforced, and so faithfully carried out, that I hardly know how they could be improved upon.

There was indeed no occasion to disturb them [the breeding rookeries] because the killable seals, or "bachelors," from 3 to 5 years old, were so numerous that the whole catch could be taken from this class with the ease and facility which I have already described.
H. G. Otis, p. 86.

Besides, under the operation of the natural laws governing the species in their habitat, the classes are distinctly separated on land, the bulls, cows, and pups occupying the breeding rookeries proper, while

what are known as the "bachelors," to wit, those young males which have not arrived at the dignity of being the heads of harems, haul out of the sea and gather upon the shores separate and apart from the breeding rookeries, so that the driving for killing purposes could then be readily done without interfering with the breeding rookeries. Thus a wise deference on the part of man to the habits of this systematic race of animals can be turned to valuable account and nature be made to reinforce commerce in her work.

The young males, from 2 to 5 years old, whose skins are taken by the lessees, begin to haul out on land in May and they continue to haul out till July. They herd by themselves during the months of May, June, and July, and they do this because, during the breeding season, they dare not approach the breeding rookeries or the bulls would destroy them. Being thus debarred from a position on the breeding rookeries or from intermingling with the cows, they herd together on the hauling grounds, where they are easily approached and surrounded by the natives, who drive them to the killing grounds without disturbing the breeding rookeries. * * *

The regular killing season for skins under the lease begins on June 1st and ends practically on the last of July; and during this period the first-class Alaskan fur-seal skins are taken. The seals are driven from the hauling to the killing grounds by experienced natives under the orders of the native chief, and the constant aim and object of all concerned is to exercise the greatest care in driving, so that the animals may not be injured or abused in any manner.

As the regulations require the lessees to pay for every skin taken from seals killed by the orders of their local agents, and as the skin of an overheated seal is valueless, it is only reasonable to suppose that they would be the last men living to encourage or allow their employés to overdrive or in any manner injure the seals. I know that the orders given to me as local agent were always of the most positive and emphatic kind on this point, and they were always obeyed to the letter. Instead of overdriving or neglecting the seals the lessees have endeavored to do everything in their power to shorten the distances between the hauling and killing grounds, or between the hauling grounds and the salt house.

All driving is done when the weather is cool and moist, and when the condition of the weather demands it, the drives are made in the cool of the night; and in no case are seals driven at a higher rate of speed than about half a mile an hour. So carefully is the driving done that it has been found necessary to divide the native drivers into several "watches," which relieve each other on the road, because, the pace being so slow, the men get cold.

I am further satisfied after my two years' experience that the driving of male seals to the killing grounds by the natives could be of no possible injury to seal life on the islands.

While on St. George Island I attended nearly every killing of the bachelor seals (which are the ones taken for their skins) and also many drives. I very frequently went over the ground where a drive had been

J. C. Redpath, p. 149.

J. C. Redpath, p. 150.

T. F. Ryan, p. 175.

B. F. Scribner, p. 89.

made, after such had taken place. I became familiar with the manner of driving, handling, and killing the seals by the natives, and I consider the methods employed by them to be practically perfect, and no improvement can be made on such methods. The greatest care is always taken not to heat the seals in driving them, and in case the sun came out during a drive the seals were allowed to return to the sea.

The work of taking the annual "catch" was done in 1883, 1884, and 1885 under my management in the same way in every particular as under my predecessor. The seals were carefully driven, handled, and killed in an orderly manner, the whole work being carried on as systematically and quietly as in the well-conducted slaughterhouses in our cities. The talk about lasting injury resulting from overexertion to such seals as are turned back to the water after having been driven to the killing grounds is nonsense.

I made a very particular examination and study of the methods employed by the natives in driving and killing the young males, or bachelors, and in my opinion these methods are the very best that could be adopted, and I can conceive of no other way which could be employed and preserve seal life so effectually. In starting a drive the bachelors are driven from the hauling grounds, which are separated from the breeding grounds. * * * A drive is always made between 2 and 6 o'clock in the morning, when the weather is cool and there is less liability of overheating the seals. Seals are driven as slowly as is possible and still keep them in motion. I do not think that there were fifty seals killed during the season by overheating and smothering, and in all cases the skins of these were taken and counted with the other skins transported to the salt houses.

While located on St. George I became thoroughly acquainted with the methods of driving, handling, and killing the bachelor seals by the natives. I believe those methods are the very best that could be adopted for the preservation of the rookeries and conservation of seal life.

* * * * *

Seals were rarely killed by overdriving; but when such an accident occurred the skin was taken off and included in the quota. Often after the drive I went over the ground where the seals had been driven and counted those left on the road. They were very few in number, and did not affect seal life in general on the island.

After I learned the business one of my duties was to have charge of one of the gangs of natives engaged in driving the seals from the rookeries to the killing grounds and there slaughtering them. Such seals as we did not slaughter for their skins were allowed to return at will to the rookeries and were in no way injured by such driving and return. On getting back to the place whence they started they were, after a short rest, as playful and active as ever.

The longest drives made on St. George Island are from "Starry Ateel" and "Great Eastern" rookeries, and they are less than 3 miles long. Drives from these rookeries require from four to six hours, accord-

Danl. Webster, p. 181.

S. M. Washburn, p. 155.

Geo. Wardman, p. 178.

Leon Sloss, p. 91.

ing to the weather. At Zapadnie rookery, on St. George, the drive to the killing grounds is less than a mile. The seals are now being killed there instead of being driven across the island, as they were prior to 1878, when it took three days to make the journey. There is now a salt house at Zapadnie, at which the skins are salted as soon as taken.

The killing grounds on both islands are all situated within a very short distance from the shore, and seals not suitable to be killed, or that are turned out for any cause, immediately go into the water, and after sporting around for an hour or two, they return to the hauling grounds, and to all appearances they are as unconcerned and careless of the presence of man as they were before they were driven to the killing grounds.

OVERDRIVING AND REDRIVING.

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The same seal is sometimes driven several times during the season. One with a peculiar spot on him was driven in more than a dozen times in one season. His skin was in such condition that we did not want it. But I do not think that he or any other one of the drove was injured by the exertion. The driving gave them, with rare exceptions, very little more exercise than they appeared to take when left to themselves. The practice of driving has always been conducted the same as when I was on the islands, and the seals have thriven and increased under it. They grow much tamer, too, with repeated driving, and seem to learn the road and what is expected of them on the killing ground. It is much less trouble to handle a drove of seals from the rookery very near the village than those from a distant point.

Redriving of the growing males from the various hauling grounds was made at intervals of several days, and did not cause them any injury, and I am thoroughly satisfied that there was not a single instance in which the virility of a male seal was destroyed or impaired by redriving.

I never saw or heard of a case where a male seal was seriously injured by driving or redriving. Certainly the reproductive powers were never in the slightest degree impaired by these means. When we consider that the bulls, while battling on the rookeries to maintain their positions, cut great gashes in the flesh of their necks and bodies, are covered with gaping wounds, lose great quantities of blood, fast on the islands for three or four months, and then leave the islands lean and covered with scars, to return the following season fat, healthy, and full of vigor, to go through again the same mutilation, and repeating this year after year, the idea that driving or redriving, which can not possibly be as severe as their exertions during a combat, can affect such unequal vigor and virility, is utterly preposterous and ridiculous. To show the wonderful vitality of the male seal, I will give one instance which came under my own observation: A drive of about 3,000 bachelors had been made, and, after going a short distance, was left in charge of a boy; by his negligence they escaped from his control, and the whole number

plunged over a cliff, falling 60 feet upon broken stones and rocks along the shore. Out of the whole number only seven were killed, the remainder taking to the water; and these seven met death, I believe, from being the first to go over and the others falling upon them smothered them.

As long as a seal is not overheated in driving he could be driven any number of successive days without in any way impairing or affecting in the slightest degree his procreative powers, of course always provided the natives use the same methods in driving that they always have done. Seal life, I am positive, was never affected in this manner on the Pribilof Islands.

A few seals are injured by redriving (often conflated with overdriving and sometimes so called), but the number so injured is inconsiderable and could have no appreciable effect upon seal life through destroying the virility of the male. The decrease, caused by pelagic sealing, compelled whatever injurious redriving has taken place on the islands, as it was often necessary to drive every two or three days from the same hauling grounds, which caused many seals let go in a former "drive" to be driven over again before thoroughly rested. If a "drive" was made only once a week from a certain hauling ground, as had been the case before pelagic sealing grew to such enormous proportions and depleted the rookeries, there would be no damage at all resulting from redriving.

During my experience (and I was on the killing ground at every killing that took place while I was on the islands) I never saw a male seal which had been injured by being redriven several times from the same hauling ground. I am convinced that while I was there there was not a single case in which the virility of a male seal was destroyed or impaired in the slightest degree by driving, redriving, or overdriving, and I took particular notice of the condition of the males during each drive. The males old enough for service on the breeding grounds were always allowed to return to the hauling ground from a "drive."

Of course many of these were redriven, and some of them several times during the season, but I believe no injury resulted to them from this process. They were subjected upon the drive to no greater exertion, and rarely to more cruel treatment in any way than we habitually put upon our domestic animals. The only noticeable effect upon them resulting from the "drive" was sometimes abraded hind flippers, and, of course, the signs of healthy fatigue naturally following continued exertion, from which they quickly recovered. The loss of virility and destruction of reproductive power in the older males by reason of repeated driving and other hardships to which the young animals are subjected upon the islands exists, if at all, only in the imagination of theorists who have reported upon the subject. It is arrant nonsense. Impotent males are never seen there in any species until they have become so by old age.

The "hauling grounds" nearest the "salt houses" were, as a matter of course, most frequently visited by the hunters.

At each time of driving some animals were found too large or too small, or otherwise undesirable,

and were allowed to escape from among the "killable" herd, and it was the subject of frequent remark that these seals so frequently driven became accustomed to the presence of man, and evidently acquired confidence from the fact that they were not harmed, so far that on being separated from the herd they appeared unconcerned, and not worried or frightened, but would leisurely return to the place whence driven, and, without taking to the water, as is their habit when frightened, would remain until, on the arrival of others in sufficient numbers, they were again driven, only to be released and returned as before.

These repeated drivings did not apparently injure the animals in the least. Injuries through accident resulted at intervals, but most of those were slight, and recovery soon followed. That the driving of the seals as practiced, whether more or less frequently, did not result injuriously to the breeding, is abundantly proven by the results noted after the lapse of several years.

I was first chief from 1884 to 1891, all through the years of the decrease and controversy, and it has been my duty to inspect the rookeries and seals from time to time *A. Melovodoff, p. 143.* and to report the condition of both to the Government and company agents. It has been my duty to thoroughly inform myself of the number of male seals—bachelors—on each rookery, and to select the grounds to be driven from every killing day throughout each killing season, and I believe I never allowed the seals to be overdriven or the drives to be made too often.

While I was on the islands I am convinced that the propagation of seal life was never affected in the slightest degree by redriving or overdriving. The killing grounds *J. H. Moulton, p. 72.* were near the water, so that the seals let go from the killing could easily return to that element, and these killing grounds were established as near the hauling grounds as it is possible to do without having the odor from the carcasses disturb the breeding seals. Teams and boats were also used to transport the skins to the salt houses, so that the killing grounds could be located much nearer the hauling grounds than before this means of transportation was provided.

It was a very rare occurrence for a seal to be killed by overdriving. I never saw or heard of a seal being injured by driving or redriving, and I am certain that the *B. F. Scribner, p. 90.* reproductive organs of a seal were never injured by any such means. The idea that the virility of a male seal was impaired by driving or redriving is preposterous, for a male seal which can survive fasting for three months, and the serious wounds and violent exertions of conflicts on the rookeries, besides serving so many females, could stand almost any amount of driving while a bachelor.

I never saw or heard of the generative organs of a male seal being injured by redriving, and it seems to me to be utterly absurd that anyone could think that an *W. B. Taylor, p. 177.* animal with such wonderful vitality as is possessed by the male seal could be injured or his reproductive powers impaired by driving or redriving. If such a thing should occur it would be at once noticeable, for the impotent bull would certainly haul up with the

bachelors, having no inclination and vigor to maintain himself on the rookeries.

It is asserted by Mr. Elliott, in a report made subsequent to that above cited, from which I have seen extracts, that permanent injury results to the male seal from the practice of repeatedly bringing him up to the killing grounds and letting him go again because of some defect in his skin, or for the reason that he is needed as a breeder. He does not say what he saw among the old males to justify any such conclusion, and I do not believe it is warranted by the facts. When the seals get back to the water after a long drive they are, of course, considerably fatigued, but leap as gaily as usual after a little rest, and play with their fellows on shore with their accustomed vivacity on the day following the drive.

There are always some disabled seals on the beaches described by Mr. Elliott as "hospital rookeries," where those maimed in the conflict for supremacy on the breeding grounds and decrepit old males too old for further service haul up to rest and heal their wounds. The number of such animals is never large in proportion to the whole herd, and all others represent the highest type of virility, vigor, and strength.

The only injury I ever noticed from redriving was that the hind flippers of yearlings which had been driven several times would be slightly abraded. They were footsore, you might say, but there were no injury to the reproductive organs of the males driven. I am satisfied the natives would have noticed it and spoken to the Government agents about it if we had overlooked the fact. My attention was never called to anything of this kind, and in all my experience I never heard of a male being so injured. Even if a male were driven once a day for ten successive days, I am certain that such driving would not impair his future usefulness as a progenitor of his species.

The seal usually makes one rookery his home, and so the same seal, when not up to the standard for killing, is driven several times in one season to the killing grounds to find his way back to the rookery when those suitable for killing have been dispatched. They are fresh for the succeeding journeys, which take place at intervals of several days, as for the first one. The methods of the lessees in killing their quota and in care for the preservation of the great body of the herd were, in my judgment, as judicious as could be taken.

Seals turned away from the killing grounds return to the rookery from which they were driven, therefore a male seal is not redriven day after day, because a hauling ground is always given several days' rest before being driven from again. I never saw or heard of the generative organs of a male seal being injured by driving or by redriving, and if such a thing had taken place, even in exceptional cases, the natives would have noticed and reported it, which they never did. I have seen a seal's flippers made sore by driving, but I never saw one that was seriously injured by driving. I do not believe that a male seal's powers of reproduction were ever effected by driving or redriving.

IMPROVEMENT OVER RUSSIAN METHODS OF TAKING.

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The methods used by the Alaska Commercial Company and the American Government for the care and preservation of the seals were much better than those used by the Russian Government. In old Russian times we used to drive seals from Northeast Point to the village, a distance of nearly 13 miles, and we used to drive 5 or 6 miles from other hauling grounds; but when the Americans got the islands they soon after shortened all the drives to less than 3 miles. *Kerrick Artomanoff, p. 99.*

From my observations and my inquiries of the natives, under conditions which were calculated to elicit only truthful replies, I ascertained that there had been no change save for the better in the methods of driving or the handling of seals; that salt houses had been established at the more distant rookeries; that boats, horses, mules, and wagons had been employed to transport the skins; that by these improvements the length of the drives had been materially lessened, and that the time for taking the quota had been reduced from the Russian killing season of three or four months to about thirty days, thereby causing the minimum of disturbance even to the hauling grounds. *J. Stanley Brown, p. 18.*

In addition to this the Alaska Commercial Company, as previously stated, had introduced far better facilities, such as boats, horses, mules, and carts, for transporting the skins, and improved methods of caring for them, which not only greatly reduced the labor required of the natives, but which, when aided by their improved physical condition and the increased number of the seals, enabled the company to take their full quota in thirty working days in 1877. *Chas. Bryant, p. 8.*

This alone enormously reduced the molestation of the seals on the hauling grounds, for in the old Russian days, as previously stated, the seals were driven and killed at all times during their presence on the island.

When I was a boy, before Americans came here, we used to drive from the rookeries at Northeast Point to the village killing grounds, a distance of 12 miles, and from Halfway Point, a distance of 6 miles, and from Zapadnië, a distance of 5 miles. After the Americans came the drive from Northeast Point was stopped at once and a salt house was built at Northeast Point and the seals have been killed there ever since within about 2 miles of the hauling grounds. *Karp Buterin, p. 104.*

In 1874 or 1875 the seals were killed within a mile of the hauling grounds at Zapadnië, and the skins have been taken ever since in boats across the bay to the village salt house. In 1879 a salt house was built at Halfway Point, and since then no seals have ever been driven on St. Paul Island more than 2 miles.

In 1879 the Alaska Commercial Company built a salt house about 2 miles from Halfway Point, and after that the seals were never driven more than 2 miles. Drives used to be brought from Zapadnië to the village, a distance of about 5 miles, until, in 1879, the Alaska Commercial *Jac. Kotchooten, p. 131.*

Company made a killing ground within a mile of the rookery, and had the skins taken across the bay in boats to the village salt house.

For the past thirteen years no seals have been driven a greater distance than about 2 miles, and most of the drives are not over 1 mile.

All long drives were stopped in 1879, when the Alaska Commercial Company made a killing ground and built a salt house within 2 miles of Halfway Point and made a killing ground within a mile of Zapadnië. Since these changes were made no seals have been driven on St. Paul Island over 2 miles to a killing ground.

That the killing of bachelors upon remote rookeries such as Zapadnië was not from necessity but at the request of the Government agents, in order that the number taken from each hauling ground might be equalized; that this did not involve driving long distances, for a salt house was established at Zapadnië, and the skins brought away in boats; that after the year 1875 the lessees of said islands supplied carts for the transportation of skins from the killing grounds to the salt houses and storehouses; that because of the facility for carrying the skins, killing grounds were established at points much nearer the hauling grounds than ever before, and from that date the seals were driven much shorter distances to the killing grounds; that skins were so transported from Polavina or Halfway Point, on St. Paul, and from Zapadnië, on St. George, upon the backs of donkeys.

In 1871, for want of trained assistants the majority of the seals were killed under the supervision of native chiefs. We had no teams and were poorly supplied with boats and other facilities for transporting the skins and doing the work. Salt houses were inconveniently located, and the business was transacted in a crude way, under great disadvantages. The skins and all other material upon the islands requiring to be moved were carried upon the backs of men, a wearisome and disagreeable task after a day's work on the killing grounds. The results were unsatisfactory. The catch obtained under the direction of the chiefs comprised mainly small, light skins, because such could be easiest secured and transported. The work progressed slowly, as it had always formerly done under Russian direction. Less than two-thirds of the quota of skins were obtained in June and July. During August we were prohibited by law at that time from killing seals. Work was resumed at a later date, and finished shortly before the seals migrated, thus keeping them in a state of unrest and commotion nearly the whole summer. But the custom did not differ in this respect from that pursued by the Russians. In 1872, and every year thereafter, an American "boss" was placed at the head of every gang of natives, our tools and salt houses were improved, supplies of salt for "kneching" skins increased, and the seal catch was pushed to completion before the end of July. Additional salt houses were erected in this and the two following years contiguous to the respective rookeries, in order to avoid long "drives" and facilitate the work of the men. In 1873 a horse and team of mules were taken to the island in furtherance of the same object, and these were added to from year to year, and supplemented by several boats and a steam launch, so that long before the expiration of the lease the labor put upon both seals and men was very greatly re-

duced. Under better management, the quality of the catch sent to market constantly improved. The skins averaged larger and more uniform in size than had been formerly secured.

Formerly it was customary to drive from Halfway Point and southwest Bay to the village grounds, but it was found to be less trying to the seals and better economy *H. H. McIntyre, p. 55.* of labor to kill nearer to these rookeries. Mule teams and boats on St. Paul and pack animals on St. George were accordingly supplied several years ago for transporting the skins from these more distant points, and the killing has since been conducted as near the rookeries as practicable.

Many improvements were introduced by the Americans upon Russian methods, more particularly in systematizing the work upon the slaughter grounds, in providing *H. H. McIntyre, p. 58.* convenient buildings in which to salt and bundle the skins, and in furnishing means for transporting them from the field to the salt houses and thence to the vessels; but the management of the rookeries as regards their preservation and growth has varied very little since 1835 or 1840, when the Russians awoke to the fact that all of the females and a proper proportion of the males should be spared.

In the Russian times, before 1868, the seals were always driven across the Island of St. Paul from North East Point to the village salt house—a distance of $12\frac{1}{2}$ miles— *Anton McIvredoff, p. 142.* but when the Alaska Commercial Company leased the islands they stopped long driving and built salt houses near to the hauling grounds, so that by 1879 no seals were driven more than 2 miles.

Never since the islands have been American property has there been indiscriminate killing done upon them, nor has there been a desire on the part of anyone connected *L. A. Noyes, p. 83.* with them to injure or damage or waste seal life; on the contrary, everything has been done by the lessees, past and present, and by the United States, to foster and protect it, and to improve the methods of driving the seals, so that the herds might grow and thrive and increase, and perpetuate themselves indefinitely. Laws, rules, and regulations were made from time to time, prompted by experience, with a view to add to the value of the property, and to abolish everything that was not beneficial and in strict accord with the most humane principles. To this end all long drives were prohibited, and arrangements made by which the killing grounds have been brought as near the hauling grounds as is practicable without being injurious to the breeding rookeries.

Before the Alaska Commercial Company leased the seal islands in 1870, it was a common practice to drive seals from North East Point to the village on St. Paul Island, *J. C. Redpath, p. 150.* a distance of 12 miles, and from Zapadni to the village on St. George Island, a distance of 6 miles, across a very rough and rugged country.

From Halfway Point and from Zapadni on St. Paul Island, seals were driven, respectively, 5 and 6 miles.

When the Alaska Commercial Company took control of the islands the drive from North East Point was prohibited, and a salt house and

other necessary buildings erected within 2 miles of the killing ground, and all the skins taken there were salted and stored and shipped from North East Point. In 1879 a killing ground was made and a salt house built at Halfway Point, within 2 miles of the hauling grounds, and all skins taken at the Point are salted there. At Zapadnië, the same year, a killing ground was made within a mile of the hauling ground, and the skins taken there are taken to the village salt house in boats, or, when the weather is unfavorable, by team and wagon.

Since 1878 there has not been a drive made on St. Paul Island to exceed 2 miles. At Zapadnië, St. George, a salt house was built about 1875, and the 6-mile drive prohibited, and a trail made at great expense across the island, over which the skins are taken on pack-saddles to the Village. Since 1874 no seals have been driven on St. George Island to exceed $2\frac{1}{2}$ miles.

At Northeast Point rookery, on St. Paul Island, the longest drive is 2 miles. In former times the Russians used to drive from this rookery to St. Paul village, a distance of $12\frac{1}{2}$ miles.

Daniel Webster, p. 182.

KILLING.

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The work of killing was done under the general direction of the Superintendent of the Sealeries, who placed a "boss," or leader, at the head of each gang of men. It was the business of the "boss" to divide his gang in proper proportions—into "killers," "rippers," and "skinners." The "killers" were generally the same men day after day through the season. They became very expert in the management of the drive and the use of the seal club, and very rarely made the mistake of hitting a seal that was not wanted.

W. C. Allis, p. 97.

The "boss" told his men in a general way what class of seals to kill, and worked with them. If they had any doubt whether a certain animal should be knocked down they appealed to him for explicit direction. The work thus went forward in a very systematic, orderly way.

In killing seals for their skins, the methods employed by the Russian Fur Company prior to American occupation were

H. H. McIntyre, p. 48. closely followed, except that many innovations and improvements were instituted and adopted after the first year of the lease. The work was chiefly done by the natives, each gang of workmen being headed, as under Russian custom, by a native chief. All thoroughly understood the work, having been bred to it from boyhood.

Upon reaching the killing ground the herd was, in dry weather, placed upon moist ground and allowed to cool off.

When killing, if the herd collected upon the slaughter grounds was of considerable size, a portion of it was segregated and taken to the immediate vicinity of the workmen, the remainder being left at rest. This portion was again subdivided into "pods" of twenty-five to seventy-five animals and driven directly to the killing gang, generally comprising six or seven men, who with a single blow knocked senseless such

seals as they were directed by the "boss" to kill, and the remaining ones were driven aside and allowed to find their way back to the water at will, which they usually did shortly after being set at liberty.

The work of seal-killing is done by the Aleutian inhabitants of the seal islands under the immediate supervision of the superintendent for the lessees and his assistants. The natives are directed by their chiefs, who are either chosen by themselves or appointed by the Treasury agent in charge. The force of natives is divided into gangs of 20 to 30 men, each gang being led by an assistant superintendent and native chief, and comprises the proper number of "clubbers," "rippers," and "skimmers."

During the seal-killing season the men turned out to their work about 6 o'clock a. m. Each man in the gang is assigned by the chief to his appropriate part of the work. If the force comprises say twenty-two men, the most inefficient one will be designated as "herdsman" to watch the drove and keep it as near the workmen as practicable; five of the most active, athletic young men are detailed as "clubbers," of whom two are called "drivers," it being their duty to cut off from the drove small detachments or "pods," of from forty to seventy-five seals and drive them up to the killers. If the drove contains a considerable number of adult bulls, or the seals are tired, or the day warm and humid, the "drivers" have the most laborious part of the work. Next, one boy is detailed as "stabber," five as "flipperers," and the remaining ten, those who are most expert in the use of their knives, as "skimmers."

The clubbers are each armed with a turned hickory club, 5 feet 2 inches long, of best, straight-grained wood, like an exaggerated baseball club, and a sharp pointed hook, similar to a stevedore's cargo hook, which he carries in his belt or boot leg. The stabbers and flipperers have double-edged knives 6 or 7 inches long, and the skimmers ten or twelve inch single-edged blades; and each man a small, fine-grained oil stone, of which he makes very frequent use, finishing the sharpening process on his own palm or the seal's flipper, for the edges must be as keen as razors to effectually do the work.

If the drove contains more than a few hundred seals, a portion of it is cut off and brought to within about 75 or 100 feet of the place where the first "pod" is to be killed. The drivers step quickly along the flanks of the drove at several feet distant from it, and approach each other from opposite sides at a point to detach 50 or 60 animals. These are driven directly to the clubbers who have been previously instructed by the assistant superintendent what class of seals they are to kill and where they are to begin operations. At the word from the chief the blows fall in quick succession, a single blow upon the head of each seal designated being always sufficient to completely stun him, and usually to fracture his skull. Those remaining are carefully looked over by the assistant superintendent, such of the doubtful ones killed as he may direct, and the remaining ones driven to one side and allowed to return to the water at will; or, after a few hours, if any remain about the field, a boy is sent to head them toward the sea. The clubber's sharp hooks are now stuck into the noses or flippers of the fallen seals and they are dragged apart and laid singly as closely together as convenient for the skimmers. This is very necessary, because, if left in a heap as they are slain, the heat at points of contact quickly loosens the

fur and spoils the skin. The drivers now "run" to bring up the next "pod," the stabber thrusts his knife to the heart of the stunned animal and the flippers follow as soon as the seals are dead, to cut the skin around the head just in front of the ears, around the posterior extremity between the body and hind flippers, around the two fore flippers and down the median line of the belly. Next he is taken in hand by the skinner, who quickly flays him with dexterous strokes of his long, keen-edged knife, leaving a considerable layer of blubber upon the skin to prevent its hardening and drying in the salting process. When it is desired to save the blubber as well as the skin, both are removed from the carcass together and flayed apart with skillful strokes of the knife.

The seal-killing is done in a very orderly, systematic manner, and the attendant waste is surprisingly small when done with skilled labor. Rarely an undesirable seal is hit by a clubber, and occasionally the sun will shine out unexpectedly and so heat the skins before they can be removed, as to loosen the fur and cause it to pull out, but the entire loss under judicious management amounts to only a few score of skins in a hundred thousand. An experienced force of 22 men can easily slaughter and properly cure the skins of an average of 1,500 seals per day through the season.

When the skin has been removed from the carcass it is thrown, flesh side down, upon the damp ground, and as soon thereafter as convenient hauled to the salt house, where each one is examined and counted, in the presence of the native chief, by the Treasury agent and the assistant superintendent, in order to determine when the number allowed by law has been taken and to form the basis for payment to the natives for their work.

Arrived at the killing grounds, the seals are driven out from the main body in "pods" of twenty or thirty at a time, and experienced men club and kill the desirable ones, and allow all that remain to return at their leisure to the adjacent waters. The most experienced men do the skinning, and after them come the women and children who carry off the carcasses for food, and the fat or blubber for winter fuel.

In accordance with instructions from the Department, the Treasury agent is always present at the killings, and he has full power and authority to interfere in all cases where there is cruelty practiced or attempted.

All seals killed by the lessees for skins are killed between June 1, and July 30, and generally the season closes on the 20th of July.

SALTING AND KENCHING.

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In the early days of the sealing industry it was always customary to dry the skins for market by stretching them upon the ground by means of wooden pins driven through their edges or by the use of stakes and twine. But this process made the skin difficult to unhair in dressing, and, moreover, in the very damp climate of Alaska, it was often impossible to dry the skins thoroughly enough to prevent their decaying en route to market. Large numbers of skins were lost, I am informed, in this way, even after artificial heat was resorted to for drying them, and it was found most profitable to salt them and ship them in salt to market.

The salting is done in rows of bins called "kenches." Each skin is thrown to the man in the kench, who quickly spreads it, flesh side up, and a third shovels salt enough upon it to completely cover its surface. The next skin is spread in the same way above the first, and so on with alternate layers of skins and salt until the kench is full. Here they lie from five to seven days and are then shaken out, any curled edges are unrolled and salted, and the skins are folded with a small quantity of salt between the folds, and again piled to complete the curing process. A few days later they are once more pulled apart and spread out, sprinkled with a handful of salt and rolled and tied in compact, cylindrical bundles containing two skins each, flesh sides together. In this shape they are lightered from the warehouses to the vessel in the skin boats built by the natives, and shipped to San Francisco, where they are packed in casks holding from fifty to sixty skins each, and forwarded to London, via New York, by railroad and steamer.

The practice of salting the skins was followed to some extent by the Russians during the last few years prior to the cession of Alaska to the United States, and in nearly every particular the management of the sealeries by the Americans is the same as that pursued by the Russians during the last years of their occupation.

INCREASE.

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From the start I was employed by the Alaska Commercial Company and remained in their service until 1876, in charge of the companies' business on St. George Island. *Geo. R. Adams, p. 157.* In 1871 we took 25,000 seals on that island, and the regular quota each year thereafter. During the season of 1876 I was in charge of their business at St. Paul Island. We had no difficulty during my seven years' residence at the island in obtaining the full quota; nor could I discover at any time any diminution of the number of seals annually hauling up at the island. When the period arrived for their coming to land, the shore literally swarmed with seal life. * * * I observed a perceptible increase annually in the number of females arriving at the island, due, in my judgment, to the care exercised by those charged with their custody.

Good management upon the island increased the seal life for many successive years, and the same management continued, as I believe, to the present time. *W. C. Allis, p. 99.*

For the first few years I was on the islands the rookeries grew larger every year, and I was told by the natives and others that they had grown a good deal since the Americans first took them. *John Armstrong, p. 1.*

I have examined the breeding areas of 1870, indicated by H. H. McIntyre on charts A, B, C, D, E, F, and G, of St. Paul Island, and they are, to the best of my knowledge and belief, correct. I have also examined the areas of increase shown by him upon the same charts as applicable to the breeding rookeries in 1882, and they were proportionately correct in 1877, the last year of my stay upon the islands, the in-

crease up to that time having been about one-half of that shown by him. The above statement is true also, to the best of my knowledge and belief, of the breeding areas of 1870 and the increase of 1882, indicated by Thomas F. Morgan upon charts H, I, J, and K, of St. George.

From 1870 up to the time I left the islands in 1877, the females, of which I made as careful a calculation as is possible by measuring the areas covered by the breeding rookeries, increased from 4 to 5 per cent annually. * * * The increase in female life was readily determined by noticing annually the lines of demarkation of the breeding grounds among the rocks, and also from the fact that many lanes through the breeding rookeries to the hauling grounds, left by the old males for the use of the bachelors, which existed in 1870, were entirely closed up by the breeders in 1877, and the bachelors were compelled to haul out on the sand beaches. Another proof of this increase was the fact that in 1870 the breeding seals confined themselves to the shores covered with broken rocks, but in 1877 the areas had increased to such an extent that a considerable percentage of the breeding seals extended out onto the sand beaches, which before they had carefully avoided, for reasons I have heretofore stated.

In the month of [— of] that year I was in the Bering Sea and at the seal islands of St. Paul and St. George. I went on shore on both islands and observed the seals and seal life, the method of killing, etc. I noticed particularly the great number of seal, which were estimated by those competent to judge that at least 5,000,000, and possibly 6,000,000, were in sight on the different rookeries. To me it seemed as though the hillsides and hauling grounds were literally alive, so great was the number of seals. At St. George Island, though the seals were never in as great numbers, nor were there so many hauling places, the seals were very plentiful. At this time and for several years thereafter pelagic sealing did not take place to any extent and the animals were not diverted from their usual paths of travel.

In 1880 I found the rookeries full, and in my opinion there were as many seals on the islands as at any time during my experience.

I have myself observed, and have so learned from others, that for the last ten or fifteen years there were more seals at the islands than there were twenty-two years ago when I first visited the Pribilof Islands; an increase due, without doubt, to the very careful protection and fostering of the seal herds afforded by the Alaska Commercial Company, then lessee of the islands.

Each season while I was located at the islands I made a careful examination of the breeding grounds on St. George Island, noting particularly the areas covered by them. The result of my observations was that there was marked increase in these areas from 1871 to 1876, and necessarily a corresponding increase in seal-life, for, no matter whether the seals are few or many in number, they always crowd together on the breeding grounds as closely as possible. In my judgment this increase

was fully 25 per cent. One fact alone proved conclusively that there had been a considerable increase, for in 1871 I noticed passages left by the old bulls through the breeding grounds for the bachelors to pass to and from the hauling grounds located back of the breeding grounds. In subsequent years these passages were entirely blocked up by the breeders. There was always during these six years an excess of adult, vigorous bulls, for breeding purposes, and large numbers of these hauled up back of and about the breeding grounds awaiting an opportunity to take the place of some wounded or aged bull unable longer to maintain a harem.

Each season while I was located on the islands I made a careful examination of the breeding grounds on St. George Island, noting particularly the areas covered by *Samuel Falconer*, p. 167. them; and I now recollect the condition of said rookeries and the approximate area which each of them covered in the year 1874. I have carefully examined the lines drawn by Thomas F. Morgan on exhibits signed by him and marked exhibits H, I, J, and K; that the lines in red on said exhibits practically represent the areas so covered in 1874; but I think that in some instances, hereafter stated, Mr. Morgan has been a little too conservative in his estimates.

On Starry Ardeal Rookery (Exhibit H) the line should be extended along the shore to the eastern limit of the pond, shown on said exhibit, and should extend nearly as far again up the hillside.

On North Rookery (Exhibit J) the line does not, in my judgment, extend as far back from the shore as it should, as there had been a great increase since 1871 on this particular rookery.

I would further state that there was a perceptible increase in all these areas from 1871 to 1874.

I would also state that the spaces indicated as areas over which seals have at various times hauled, on said exhibits, by J. Stanley Brown (as I am informed and believe), are, to the best of my knowledge and belief, correctly designated.

At the time of my employment at the island, everything about the seal rookeries and sealing industry appeared to be in a highly prosperous condition. There was *H. V. Fletcher*, p. 105. no lack of seals. The rookeries were said by all the natives and residents to be as large and full as they had ever been, and the lessees got their full number of skins allowed by law within the usual time, all of good marketable sizes, from such sized animals as the employ  es were told to kill, and had a large surplus left each year for breeders.

From the time I settled here in 1869 until 1882 or 1883, there was no trouble at all in taking 85,000 seals on St. Paul Island between June 1 and July 30, and we often *John Fratis*, p. 107. got that number by July 20.

There has been no change in the manner of conducting the business ashore, but there has been added the open-sea hunting industry in the waters surrounding the *W. S. Hereford*, p. 33. rookeries, and which industry, as is well known, has rapidly increased since 1884, until now it has assumed grand proportions.

The best methods of managing seal rookeries are as well understood and as carefully practiced as any other branch of husbandry, and the same methods have been pursued with such excellent results through a long series of years that there can be no doubt about their correctness.

From 1870 to about 1884 the seal rookeries were always filled out to their limits, and sometimes beyond them.

That while located on the Pribilof Islands I was the greater part of that period upon the island of St. Paul; that during the twenty-one years upon the islands I examined at frequent intervals of time the breeding rookeries on said island of St. Paul, and now recollect the condition of said rookeries and the approximate area which each of them covered at different times during my experience on said islands; that I have indicated to the best of my recollection the grounds covered by said rookeries in the year 1870 by a red line, and the grounds so covered in the year 1882 by a blue line, on the exhibits signed by me and marked exhibits A, B, C, D, E, F, and G. That the grounds indicated by said lines are practically correct and represent approximately the areas covered by breeding seals on said rookeries in said years of 1870 and 1882.

I further depose and say I have examined the charts of said St. Paul Island, made, as I am informed and believe, by J. Stanley Brown; that to the best of my knowledge the spaces represented on said charts, as grounds over which the bachelor seals have hauled at various times during my experience, are practically correct.

That from the year 1870 there was an expansion of the areas of the breeding grounds, and that in the year 1882 they were as large as at any time during my acquaintance with them.

This number 100,000 was easily secured every year from 1871 to 1885, and at the same time a constant increase of the seal rookeries was observed. I am satisfied that with good management upon the islands, and the cessation of pelagic sealing, this number could have been secured annually up to this time, and for an indefinite future.

During the whole period of seventeen years from 1868 to 1885, no difficulty was experienced in obtaining the full quota of 100,000 well selected, marketable skins. I know this to be a fact during all these years, up to and including 1882, from personal observation and experience continued from day to day, in actively managing the business, and am assured by the daily record kept by my assistants, and by their reports to me from time to time, that they were equally successful in seasonably obtaining a desirable catch from 1883 to 1885, inclusive, while I was away from the islands. The work was not completed as early in the seasons from 1880 to 1885 as it had formerly been. This was chiefly due to the greater care exercised in selecting animals to be killed. In order that the selection should be made from as large a number as possible, and to satisfy the requirements of the Treasury agents in charge, who demanded that all the rookeries be worked in regular

rotation, we commenced in 1879 or 1880 to "drive" with greater frequency from the more distant and less accessible grounds. These distant animals were not, however, driven to the village killing grounds, as has been represented, but were slaughtered as near the rookeries as seemed prudent with regard to the welfare of the breeding seals, and the skins were transported in wagons or boats to the salt houses. With this exception, there was no change in the manner of conducting the business from 1870 to 1889.

From 1869 to 1882 the seal rookeries largely increased. I know this from accurate personal observation, and reported relative to it to the Alaska Commercial Com- *H. H. McIntyre, p. 51.* pany July 16, 1889, as follows: "The breeding rookeries from the beginning of the lease until 1882 or 1883 were, I believe, constantly increasing in area and population, and my observations in this direction are in accordance with those of Mr. Morgan, Mr. Webster, and others who have been with me for many years in your service, and of Special Treasury Agent J. M. Morton, who was on the islands from 1870 to 1880. Even as late as 1885 Special Treasury Agent Tingle reported a further increase of breeding seals; but his estimates were made in comparison with those of Prof. H. W. Elliott of 1872 and 1873, and he was probably not fully aware of the fact that the increase had occurred prior to 1883, and that in 1885 there was already perhaps a slight diminution of breeders."

Under personal instructions from the late Senator John F. Miller, then president of the Alaska Commercial Company, I commenced shortly after my arrival upon *H. W. McIntyre, p. 134.* the island a series of observations in order to determine as nearly as practicable the area of ground occupied by the seals, and incidentally their number, approximately, during the season of 1871 for the purpose of noting the changes which might occur from year to year. To this end, in the year 1871, I carefully noted the position of the seals on breeding rookeries and upon the several hauling grounds where old, young, and middle-aged seals were congregated, and by definitely marking the points reached was enabled, after the animals had migrated in the autumn, to carry forward a survey of the island as a whole, and on the plat or map resulting from said survey was designated accurately the ground occupied by the seals.

The work of survey was carried on as rapidly as possible, and I was enabled from the observations so made to make a chart or map having upon it bearings and distances, the whole of which were verified by Lieut. Washburn Maynard, of the U. S. Navy, slight differences in our measurements and observations only being noted.

Owing to the fact that President Miller took occasion to impress upon me the necessity of exercising the greatest care in complying strictly with all the requirements of the lease, and that careful attention to the preservation of the seal life should under all circumstances be regarded as of first importance, and to this end the most careful study of the habits of the animals should be made at the outset, and continued from year to year in order to determine what effect the killing of a definite number might have upon the seals as to increase or diminution, I took more than ordinary care in noting the area of ground occupied each year by the different classes of seals, and it was evident that during the years 1871 to 1881 inclusive there was a steady increase in seals of all kinds.

As my observations extended over a period of time sufficient for the growth and full development of individuals I was enabled to determine with a greater degree of accuracy the effect of the operations of the company generally, as well as to follow specifically to result, various matters of detail, all of which were based upon the experience and methods of the Russian American Company as practically known to captain Niebaum, general manager of the business of the lessees, and to the chiefs and other permanent residents of the islands.

Grounds occupied by the seals as "breeding rookeries" or "hauling grounds" are filled with a degree of uniformity each year; hence the area occupied is a very sure criterion in estimating numbers, whether of "bulls" or females with their young, or young males, or of mixed young (yearlings) of both sexes, and the fact of there being a constant increase as above mentioned was fully established by the constant enlargement, year after year, of the space so filled.

To myself, as having the interest of my employer at heart, the healthful condition of the "rookeries" and their constant expansion was a source of gratification in all respects, and especially as in full evidence that the business was conducted on correct principles. Of this I am fully convinced, and were I to have occasion to assume control of the seal interest (outside destruction being prevented), I should most assuredly follow the precedent established by the Alaska Commercial Company during the first ten years of its lease of the islands.

The area of "rookeries" constantly expanding was filled with animals evidently healthy and strong; vigorous males were in abundance, as shown by the increase of young, and by the fact that the number of barren females was not increased. Superannuated males were found as usual, but during the time of my residence no unusual lack of health or vigor was seen among the seals of whatever class or age.

When our lease of the Commander Islands took effect in 1870, the annual catch of seals would not exceed 15,000 without injury to the herd. There was no maximum limit in our lease as to the number we were allowed to kill, but under the method adopted by the company in taking seals, only young males with merchantable-sized skins were killed. Under this system the seals increased so rapidly that in 1887 we had no trouble in obtaining 45,000 skins per annum without injury to the herd.

It is an actual fact beyond dispute that female seals were much more numerous on the islands in 1883 than they were in 1870. The increase was gradual each year and was so marked that the natives often spoke of it to me.

That during the years 1868 and 1869, and from May to July, 1874, I was located on St. Paul Island, and also from July, 1882, to May, 1883; that during the remainder of the time I was upon said islands I was resident on St. George Island; that during my residence on said islands I examined frequently the breeding rookeries on the island where I

then was located, and now recollect the condition of said rookeries, and the approximate area which each of them covered at different times during my experience on said islands; that I have carefully examined the lines drawn by H. H. McIntyre on exhibits signed by him and marked Exhibits A, B, C, D, E, F, and G, indicating the grounds covered by said rookeries on St. Paul Island in the year 1870 and the year 1882, and that the red line shows the approximate area so covered in 1869, and the blue line the approximate area so covered in 1882; that I have indicated to the best of my recollection the grounds covered by breeding rookeries on St. George Island in the year 1874, by a red line, and the grounds so covered in the year 1884 by a blue line, on the exhibits signed by me and marked Exhibits H, I, J, and K; that the grounds so indicated are practically correct and represent approximately the area covered by breeding seals on said St. George Island in said years of 1874 and 1884.

I further depose and say I have examined the charts of said St. Paul and St. George islands, made as I am informed and believe by J. Stanley Brown; that to the best of my knowledge the spaces represented on said charts as grounds over which the bachelor seals have hauled at various times during my experience are practically correct.

I may state that the sum of my observations in the above relation on the Pribilof Islands at the close of the season of 1878 clearly indicated that since 1870 the rookeries had increased in an appreciable manner, and *Jno. M. Morton, p. 68.* I may add that such was the opinion of everybody on the islands who had given the subject any careful study. During the years I have mentioned, to wit, from 1870 to 1878 inclusive, the stock of killable seals was always more than sufficient to meet the annual demands made upon it by the lessees and still leave in reserve a proper supply of males for future use on the rookeries.

I have already stated that my personal observation and investigation of the conditions at the islands from 1870 to 1878, inclusive, showed that during those years a steady *J. M. Morton, p. 69.* expansion of the breeding rookeries took place. I am also informed and believe that such expansion continued up to the year 1882 or 1883. During this period of general increase it is notable that the destruction of animals from pelagic sealing was comparatively unimportant. But a few vessels up to this time had made predatory excursions in Bering Sea, and the number of seals obtained by them is known to have been small.

While I was on St. George Island there was a perceptible increase in the number of seals, there-being more in 1881 than at any time previous while I was there. *J. H. Moulton, p. 71.*

When the Alaska Commercial Company obtained the lease in 1870, of the right to take seals for their skins, I instructed the superintendent and agents of the *G. Niebaum, p. 77.* company in regard to the way in which the work had been done, and outlined to them the policy to be pursued in the future. The lease of the Alaska Commercial Company had twenty years to run, and it was for our interests that the very best methods should be adopted for managing not only the "bachelors," then ready for slaughter, but also the breeding herds upon which the future of our

business depended. To this end I directed our superintendent of the sealeries to observe the greatest care in driving, handling, and killing the seals, cautioning him to allow nothing to be done that would in any way tend to alarm or disturb them, or in the least degree interfere with their already well-known orderly, regular habits of breeding and migration.

The instructions were explicit that no females should be killed, and, further, that bulls enough of mature age should be preserved to serve them. In order to see that these instructions were followed and the business put upon what I confidently believed to be the right basis, I visited the islands in 1871 and 1872 and again in 1877, and was more than satisfied with the result of my investigations. The work was being carried on at these times in a highly systematic, orderly manner, showing great improvements over the way of doing it under Russian régime, and the result of good management showed itself on every hand. The breeding rookeries had largely expanded in 1877 over the limits of 1869, as I personally observed and as I was informed by the Treasury agent in charge, by our superintendent, and by the native chiefs. The natives were enthusiastic in their praise of the American way of doing business and conducting sealing, as compared with what they had been accustomed to in former years.

Yet it required no very deep study nor occult knowledge to bring about the healthy growth of the seal rookeries. It was simply needed to treat them as our ordinary domestic animals are treated to produce the same result. The seals are polygamous, as our horses, cattle, and sheep are, and the best methods of breeding these is equally advantageous when applied to the seals. It is an indisputable fact, and known to the most ordinary breeder of domestic animals, that any surplus of males is a positive injury, and results in a progeny inferior in size, quality, and numbers produced. The fierce struggles of the surplus male seals to gain a foothold on the breeding grounds create great disorder and commotion, and often end in crushing the pups, and sometimes even in killing the mothers. This was so well understood by the Russians that, long before the cession of Alaska, they ordered the slaughter, we are told by Veniaminof, of the superannuated males, in order to clear the way for vigorous stock. They succeeded by this intelligent course in bringing up the rookeries from their depleted condition of about 1840, consequent upon the bad management of prior years and the unpropitious season of 1835, when the ice nearly annihilated the seal life, to the productiveness in which we found them in 1868. We continued the same system, with slight modifications, and had every reason, up to 1882, to expect to be able to return the property to the United States at the expiration of our lease in better condition than when we received it. But a force was already gaining momentum long before we noticed any serious disturbance of the herd on the islands that was destined to disappoint our expectations, and, if not checked, to utterly destroy the commercial value of the sealeries.

I have shown that under good management the seals increase on the Pribilof group, and know such to be the fact;

Gustave Niebaum, p. 79. also in regard to the Commander Islands. The methods were the same in the two places, but the Asiatic herd was not seriously molested at sea until 1890, and the increase continued up to that date. Now, pelagic hunting is going on there the same as in the Alaska waters, and already the herd is diminishing as did the Pribilof herd from the same cause several years earlier. The

same good management, upon cessation of marine killing, will rapidly augment both herds again, for no animals are more susceptible to good treatment in breeding than these. Their marine enemies, aside from man, are a constant factor of destruction in disregard of which they multiply.

In all these years seals of all classes were present at the islands in vast numbers, so that the annual catch of 100,000 skins, 80,000 on St. Paul and 20,000 on St. George, *H. G. Otis, p. 85.* was taken with great ease and facility, the killing season proper extending over a period of only about forty-five days in each year, and the actual working days being only from thirty-two to thirty-five in each year.

During my term of service at the islands I made careful and elaborate reports each year to the Secretary of the Treasury. In one of these reports, dated July 30, 1881, I embodied a compilation from the official records covering a period from 1871 to 1881, with the object of showing the relative abundance of the seal life during those years. The table was preceded in my report by the following explanatory language: "The following table, covering a period of eleven years, shows: (1) The number of seal-skins taken in each sealing season proper on St. Paul's Island; (2) the number of days expended in the work; (3) the number of sealers engaged; (4) the average number of skins taken per day; and (5) the average daily catch per man engaged; and it is confidently submitted as the most solid ground we have to stand upon in attempting an answer to the inquiry, 'Are the fur-seals of Alaska increasing or diminishing in numbers?'"

Briefly summarized, the table shows that the working days for sealing proper were reduced from 55 in 1871 to 35 in 1881; that the average daily catch was increased from 1,375 in 1871 to 2,158 in 1881, and that the daily average catch per man employed was increased from 21 in 1871 to 32 in 1881.

The plain lesson taught by these figures and comparisons is that the vast increase in the seal life due to the proper and adequate protection of the rookeries and of the waters adjacent thereto made it possible for lessees to take the full quota of 100,000 skins in a very short period of from thirty-three to thirty-five working days. In truth, so abundant were the seals during these years that after the close of the sealing season, about July 20, when the entire number of 100,000 skins had been taken, the rookeries and hauling grounds still held a vast population of these animals and it required an expert to perceive the fact that they had been depleted at all.

During those years the sealing season commenced about June 1st to 4th and closed invariably before the 20th of July, so that the disturbance to the herd was confined to the shortest possible period of time and reduced to the minimum. The effect of this was of course most excellent. In addition to which fact the skins were always in prime condition during that period; whereas, later on, the "stagey" season commences, when the skins are inferior and not marketable.

The conspicuous fact most apparent to me during all those years was that by the enforcement of the wise laws enacted by Congress early after the acquisition of Alaska, this precious animal life could be and was protected and preserved in the fullest measure, and that being so protected the natural increase of the herds more than offset the annual killing, great as it was. * * *

Another practical proof of the fact that the seals were generally increasing during those years on St. Paul's Island

H. G. Otis, p. 87.

was found in the fact that a large overplus found their way to the Island of Otter, a small island about six miles away, and not included in the Alaska Commercial Company's lease. Otter was not a breeding island, but a loafing and resting place for the "bachelor" seals, which congregated there to the number of several thousands during the season. I noted the movement with care, and believed then that with due protection the island would in time have become a breeding island like the others, only to a lesser extent. My views and observations in regard to Otter Island were set out in a special report to the Secretary of the Treasury, dated April 1, 1882. * * *

In the plethoric condition of the rookeries during the period of my service at the islands, and with the vast numbers of seals of all kinds, there was not any difficulty about the matter of either food seals or the taking of seal skins for commercial purposes. Stringency could only arise by the general destruction of the seal life which has taken place in recent years.

From 1875 to 1883 it was no uncommon thing for the lessees to take the annual quota of 100,000 skins between June

J. C. Redpath, p. 151.

1 and July 20, and yet there was no sign of any decrease, but rather an expansion of most of the rookeries.

From carefully observing the grounds formerly occupied by breeding seals, as pointed out to me by the natives, and

W. B. Taylor, p. 176.

from statements made me by those on the island, I believe there were more seals on the islands in 1881 than in any year previous to that time.

I am satisfied from my observations that the breeding grounds on St. George covered greater areas in 1884 than in

George Wardman, p. 178.

1881, and that seal life materially increased between those dates; and this fact was verified by all the natives on the island. In fact there was no disagreement by anyone located on the islands as to that point. I am further satisfied that during this time there was always a sufficient number of males to fertilize the cows on the rookeries; otherwise there could have been no increase in the breeding grounds.

From year to year, when I was at St. Paul, the number of seals increased, and the increase was constant. This I

S. M. Washburn, p. 155.

know from my own careful observation of the herds and rookeries, and I estimate the number of seals at St. Paul, in 1877, at 5 to 10 per cent, at least, greater than the first season I was there (1874).

The number of nonbreeding males of suitable age and body for killing was in each year largely in excess of the number permitted to be killed by the lease, and was plainly large enough to replenish in due time the stock of breeding males in such numbers that the entire herd was enlarged from year to year by a gradual and healthy increase. These facts observed by me were also noted by the natives and other residents, and were the cause of rejoicing and congratulation among them.

My observation has been that there was an expansion of the rookeries from 1870 up to at least, 1879, which fact I attribute to the careful management of the Islands *Danl. Webster, p. 181.* by the United States Government.

Twenty-four years of my life has been devoted to the sealing industry in all of its details as it is pursued upon the Pribilof Islands, and it is but natural that I should become deeply interested in the subject of seal life. *Danl. Webster, p. 183.* My experience has been practical rather than theoretical. I have seen the herds grow and multiply under careful management until their numbers were millions, as was the case in 1880.

DECREASE OF THE ALASKAN SEAL HERD.

EVIDENCE OF DECREASE.

PERIOD OF STAGNATION.

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After 1882 they seemed to stay about the same, as far as the number of breeders was concerned, as long as I was there. *Jno. Armstrong, p. 1.*

I ascertained by questioning those who had had years of continuous experience with the seals that up to the year 1882 there was an annual expansion of the boundaries of the breeding grounds; that this was followed by a period of stagnation, which in turn was followed by a marked decadence from about 1885-'86 down to the present time. *J. Stanley Brown, p. 18.*

I am unable to state whether the seals increased or not during my residence on St. Paul, but they certainly did not decrease, except perhaps there was a slight decrease in 1884. In all my conversations with the natives, which were, of course, a great many, they never spoke of the seals being on the decrease, as they certainly would have done if such had been the case. *H. A. Glidden, p. 109.*

While on St. Paul Island I do not think the number of seals increased, and in the last year (1884) I think there was a slight decrease. *J. H. Moulton, p. 71.*

Upon the Commander Islands, as I have already said, the increase in seal life was constant for many years, but in 1890 we noticed a decided disturbance in the rookeries and a considerable decrease in their population. This we subsequently attributed, when the facts were ascertained, to pelagic sealing in the adjacent waters. *Gustave Niebaum, p. 203.*

I noticed during this period no perceptible increase in the breeding rookeries on St. George. *B. F. Scribner, p. 89.*

ON PRIBELOF ISLANDS.

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In 1882 there was no scarcity of killable seals. The men drove up as many every day as they could handle, and those selected for killing comprised only the choicest ones. *W. C. Allis, p. 98.*

There seemed to be also a large surplus of full-grown bulls for rookery service, and enough escaped from the slaughter ground to keep the number good as the old ones passed the age of usefulness. I do not believe the condition of the rookeries nor the manner of driving and killing the seals at this time could have been improved. It was perfect in every respect, and the lessees, employés, and natives, as well as the seals, all appeared to be and were, I believe, contented and happy.

In 1886 the conditions had somewhat changed. The natives complained that big seals were growing scarcer, that there were many dead pups on the rookeries, and the superintendent intimated to me that he did not like the outlook as compared with a few years previous, and said he thought either the number killed or the size of the animals taken for their skins would have to be reduced if things did not improve. Still we had no particular scarcity of killable seals, and the work went on as during my first year (1882) in the service.

But the trouble of which they complained grew more serious in the following years, and I think it was in 1888 the superintendent told the "bosses" they must kill less large seals and more "yellow bellies," or 2-year olds. In 1889 a very large proportion of the catch was made up of this class.

It was then perfectly apparent to everybody, myself included, that the rookeries were "going to the bad," and that a smaller number must inevitably be killed the following year.

Report of American Commissioners, p. 340 of "Case."

The aggregate size of the areas formerly occupied is at least four times as great as that of the present rookeries.

I have noticed a great decrease in the numbers of the fur-seals since 1887, both on the rookeries of St. Paul Island, which are much shrunk, in the area covered by seals, and in the waters of the Pacific and Bering Sea. On the rookeries, ground formerly hauled over by seals is now grown up with a scattering vegetation of recent growth.

C. H. Anderson, p. 205.

The skins taken prior to 1886 weighed from 6 to 10 pounds each, averaging about 8 pounds per skin; but I understand from those who remained there on duty that much smaller ones were afterwards taken, because the large seals had become scarce and were needed for rookery service.

John Armstrong, p. 1.

From 1870 to 1884 the seals were swarming on the hauling grounds and the rookeries, and for many years they spread out more and more. All of a sudden, in 1884, we noticed there was not so many seals, and they have been decreasing very rapidly ever since.

Kerrick Artomanoff, p. 99.

There are not nearly as many seal on the coast as there was two or three years ago.

Johnny Baronovitch, p. 276.

There are certain physical as well as historical sources of information upon the island from which the relation of the present to the past condition of the rookeries can be very clearly made out.

J. Stanley Brown, p. 17.

I. Not only upon, but immediately to the rear of, the area at present occupied by the breeding seals occur fragments of basalt whose angles have been rounded and polished by the flippers of seals. Among these latter rocks grass is found growing to an extent proportionate to their distances from the present breeding grounds, and further the soil shows no recent disturbance by the seals. This rounding of the bowlders of the abandoned areas was not due to the impingement of sand grass driven by the wind. No geologist would be willing to risk his reputation by asserting that this rounding came from any such agency. The distinction between the result of sand-blast action and seals' flippers is very marked.

II. A careful examination among the roots of the grass will often show the former presence of seal by the peculiar appearance of the soil, due to the excrementa of the seal and the occurrence of a thin mat of seal hair. The attention of Dr. George M. Dawson was called to such a felt of hair upon the summit of Hutcheson Hill, and both he and Dr. C. Hart Merriam collected specimens of it from among the grass roots at that locality.

III. At the rear of the rookeries there is usually an area of mixed vegetation—an area the boundary of which is sharply defined, and between which and the present breeding grounds occurs a zone of grass of only a single variety. In the immediate vicinity of the present breeding grounds only scanty bunches are to be seen. These gradually coalesce as the line of mixed vegetation is approached. The explanation of this is that the seals were formerly so abundant as to destroy the normal mixed vegetation at the rear of the breeding grounds, and that the decrease of the seals has been followed by the encroachment of the uniform variety of grass.

IV. The statements made to me by competent observers who have lived upon the islands for years all agree that the shrinkage in the breeding area has been rapid during the past five or six years.

After observing the habits of seals for a season, I unhesitatingly assert that to satisfactorily account for the disturbance to vegetable life over areas whose extent is visible even to the most careless and prejudiced of observers would require the presence of from two to three times the amount of seal life which is now to be found upon the islands.

That there has been enormous decrease in the seals there can be no question.

Have observed carefully the areas occupied by the seals on the rookeries and hauling-out grounds, especially at North-east Point and the reef on St. Paul Island, in 1884, 1885, 1886, and 1891, and on both rookeries the areas formerly occupied by seals have greatly decreased, so much so that at first appearance, it seemed, in 1891, as if the hauling-out grounds had been entirely deserted. Subsequent examination disclosed the fact that this was not strictly true, there still being a small number of male seals left on those grounds. Have also observed that the seals are much more scattered on the breeding rookeries than in former years (1884, 1885, 1886); also that the number of seals in the water has proportionately decreased, and that they have grown very much more shy and difficult to approach. Without presuming to be absolutely correct, would estimate the number of seals present at St. Paul Island during the year 1891 to about 10 per cent of the number there in former years of observation (1884, 1885, and 1886).

I did not notice any falling off in the size of the "rookeries" from the landmarks to which they came when I first saw them during the first two years I was on the island, and all agreed, in discussing the matter, that the seals had never been more numerous than they then were; but in the following years, and particularly in 1888 and 1889, no other opinion was heard than that the animals had very greatly diminished, and in this opinion I fully coincided.

During the seasons of 1890 and 1891 I was in command of the revenue cutter *Kush* in Bering Sea, and cruised extensively in those waters around the seal islands and the Aleutian group. In the season of 1890 I visited the islands of St. Paul and St. George in the months of July, August, and September, and had ample and frequent opportunities of observing the seal life as compared with 1870. I was astonished at the reduced numbers of seals and the extent of bare ground on the rookeries in 1890 as compared with that of 1870, and which in that year was teeming with seal life. In 1890 the North American Commercial Company were unable to kill seals of suitable size to make their quota of 60,000 allowed by their lease, and, in my opinion, had they been permitted to take 50,000 in 1891, they could not have secured that number if they had killed every bachelor seal with a merchantable skin on both islands, so great was the diminution in the number of animals found there.

I arrived with my command at St. Paul Island June 7, 1891. At that date very few seals had arrived, and but a small number had been killed for fresh food. On the 12th of June, 1891, we were at St. George Island and found a few seals had been taken there, also for food, the number of seals arriving not being enough to warrant the killing any great number. During that year I was at and around both these islands every month from and including June until the 1st day of December (excepting October), and at no time were there as many seals in sight as in 1890. I assert this from actual observation, and it is my opinion we will find less this year.

During my annual cruising in Bering Sea and to and from the Pribilof Islands I have carefully noted the number and appearance of seals in the water and on the breeding rookeries from the deck of my vessel and have also repeatedly visited the hauling grounds from year to year, and it was about 1884 and 1885 that bare spots began to appear on the rookeries, so much so that myself and the other officers often spoke of it and discussed the causes therefor.

The decrease in number of seals both on the Pribilof Islands and in the waters of the Bering Sea and North Pacific has been very rapid since 1885, especially so in the last three or four years, and it is my opinion that there is not now more than one-third of the number of seals in these waters and on the islands that there were ten years ago.

During my last visits to the islands I observed a very marked diminution in the number of seals thereon as contrasted with the herd seen on the rookeries five or six years previously. I am familiar with the area and topography of the various rookeries on the islands, and have observed that spaces formerly occupied by seal herds are now vacant and

parts of them covered with grass. This diminution was particularly noticeable in 1887 and 1888, the last two years of my visit to the islands.

For many years prior to 1890 I have observed the rookeries from my ship and also from the islands. The first decrease in the number appearing on the rookeries and in the surrounding sea that I particularly noticed was in the summer of 1884, and it has become more marked from year to year since. For the last three or four years their disappearance has been very marked. In October, 1890, I made a trip from Unalaska to St. Michaels. When about 20 miles south of St. George we commenced to watch for seals passing the Zapadni rookery close inshore, along the west end of St. George Island to Otter Island and Seal Island rock: thence to Northeast Point, about a mile and a half offshore. *M. C. Erskine, p. 422.*

When we started I requested the officers to keep a sharp lookout and to report if they saw any seals in the water. I was on deck most of the time myself also, and we only saw 2 seals in the whole run, whereas ten years ago, when on a similar voyage, seals were so plentiful that it was impossible to count them. From my long observation I do not think there are as many seals by two-thirds now annually arriving on the islands or in those waters as there were ten years ago, when I first commenced to notice that they were decreasing. By this statement I mean to say that only one-third as many are now to be seen as formerly.

Seals have decreased in numbers very rapidly in the last few years, and to anyone who saw the breeding rookeries, as I did, in 1880, the change is most wonderful. *C. L. Fowler, p. 25.*

It was on the breeding rookeries and among the cows that I first began to notice the decrease in seal life, and I do not think there was more than one-fourth as many cows on the breeding rookeries in 1891 that there was in 1887. *C. L. Fowler, p. 26.*

I have been a resident of the seal islands for the past ten years; formerly assistant agent of the Alaska Commercial Company, now agent of the North American Company, and during that time have been engaged in the taking of seals. I have listened to the testimony of J. C. Redpath as above, and fully concur in all that he has said concerning seal life, with the exception that the number of seals on the islands this season are, in my judgment, not more than one-fourth of what they were in 1887. *C. L. Fowler, p. 141.*

In those days [from 1869 to 1882 or 1883] we used to get plenty of seals on the Zoltai sands near the Reef rookery, and now there are none there. *Jno. Fratis, p. 107.*

It was in 1884 that I first noticed a decrease in the seals, and it has been a steady and a very rapid decrease ever since 1886, so that at present there is not one-quarter as many seals on the island as there was every year from 1869 to 1883.

In 1889 I made careful observations of the rookeries on St. Paul Island and marked out the areas covered by the breeding grounds; in 1890 I examined these lines made by me the former year and found a very great shrinkage in the spaces covered by breeding seals. *Chas. J. Goff, p. 111.*

In 1889 it was quite difficult for the lessees to obtain their full quota of 100,000 skins; so difficult was it, in fact, that in order to turn off a sufficient number of four and five years old males from the hauling grounds for breeding purposes in the future, the lessees were compelled to take about 50,000 skins of seals of one or two years of age. I at once reported this fact to the Secretary of the Treasury, and advised the taking of a less number of skins the following year. Pursuant to such report the Government fixed upon the number to be taken as 60,000, and further ordered that all killing of seals upon the islands should stop after the 20th day of July. I was further ordered that I should notify the natives upon the Aleutian Islands that all killing of seals while coming from or going to the seal islands was prohibited. These rules and regulations went into effect in 1890, and pursuant thereto I posted notices for the natives at various points along the Aleutian chain, and saw that the orders in relation to the time of killing and number allowed to be killed were executed upon the islands. As a result of the enforcement of these regulations, the lessees were unable to take more than 21,238 seals of the killable age of from 1 to 5 years during the season of 1890, so great had been the decrease of seal life in one year, and it would have been impossible to obtain 60,000 skins even if the time had been unrestricted.

The Table A* appended to this affidavit shows how great had been the decrease on St. Paul Islands hauling grounds, bearing in mind the fact that the driving and killing was done by the same persons as in former years, and was as diligently carried on; the weather being as favorable as in 1889 for seal-driving. I believe that the sole cause of the decrease is pelagic sealing, which from reliable information I understand to have increased greatly since 1884 or 1885. Another fact I have gained from reliable sources is that the great majority of the seals taken in the open sea are pregnant females or females in milk. It is an unquestionable fact that the killing of these females destroys the pups they are carrying or nursing. The result is that this destruction of pups takes about equally from the male and female increase of the herd, and when so many male pups are killed in this manner, besides the 100,000 taken on the islands, it necessarily affects the number of killable seals. In 1889 this drain upon male seal life showed itself on the islands, and this, in my opinion, accounts for the necessity of the lessees taking so many young seals that year to fill out their quota.

As soon as the effects of pelagic sealing were noticed by me upon the islands I reported the same, and the Government at once took steps to limit the killing upon the islands, so that the rookeries might have an opportunity to increase their numbers to their former condition; but it will be impossible to repair the depletion if pelagic sealing continues. I have no doubt, as I reported, that the taking of 100,000 skins in 1889 affected the male life on the islands, and cut into the reserve of male seals necessary to preserve annually for breeding purposes in the future, but this fact did not become evident until it was too late to repair the fault that year. Except for the numbers destroyed by pelagic sealing in the years previous to 1889 the hauling grounds would not have been so depleted, and the taking of 100,000 male seals would not have impaired the reserve for breeding purposes or diminished to any extent the seal life on the Pribilof Islands. Even in this diminished

* See "Dependence on Alaskan Herd," under "The Seal-Skin Industry" for this table.

state of the rookeries in 1889 I carefully observed that in the majority of cases the four and five years old males were allowed to drop out of a "drive" before the bachelors had been driven any distance from the hauling grounds. These seals were let go for the sole purpose of supplying sufficient future breeders.

I believe there has been a great decrease in the numbers of the fur-seal species; I do not believe that there are now one-tenth as many fur-seals frequenting the Pribilof Islands as there were ten years ago. *Chas. J. Hagne, p. 208.*

Nine or ten years ago, when lying off the Pribilof Islands in the fall, the young seals used to play in the water about the vessel in large numbers; in going to the westward in the month of May many seals were always to be seen between Unalaska and the Four Mountain Islands. In midsummer, when making passages between Unalaska and the Pribiloff Islands, used to see large bodies of fur seals feeding—they were invariably to be met with most numerous about 60 miles north-north-west true from Unalaska, and from there up to the islands a continuous stream of seals was to be seen moving to and from the feeding grounds.

When last I visited the rookeries three years ago, in 1889, I noticed a great shrinkage in the area covered by seals on the rookeries.

In 1886 and 1887 there appeared to be enough seals and the men were kept pretty steadily at work after the first few days of the season until the catch was completed. Good-sized skins were taken in these years and there was no trouble in getting them, but large seals grew very scarce on the island in 1888, and still more so in the three following years. * * *

I am sure the size of the rookeries on St. Paul Island and the number of seals on them in 1891 were less than one-half of their size and number in 1886.

Coincident with the increase of hunting seals in the sea there was an increase in the death rate of pup seals on the rookeries; also a perceptible diminution of female seals. As hunting increased it became self-evident, even to the most casual observer, that the rookeries were becoming devastated. It is positively a fact that there are not near as many seals occupying the rookeries now, at the present time, as there were when I first saw the islands. The vacant spaces on the breeding and hauling grounds have increased in size from year to year since 1884, and have been very noticeable for the last four or five years.

When I first went to the seal islands the seals were actually increasing in numbers instead of diminishing. Two facts presented themselves to me later on:

First. Seals were arriving each year in diminished numbers.

Second. At the same time that the female seals were decreasing in numbers the number of dead pups on the rookeries was increasing.

The indiscriminate slaughter of seals in the water has so depleted their number that the company is at present unable to get their quota of skins on the island as allowed per contract with the Government, and is restricted to such an insignificant number that it is not enough to supply food to the native population of the islands.

It is an indisputable fact that large portions of the breeding rookeries

and hauling grounds are bare, where but a few years ago nothing but the happy, noisy, and snarling seal families could be seen.

* * * * *

The driving rookeries also necessarily have suffered, as witness the difference in the catch, a drop from 100,000 to about 20,000 in 1890.

I have been employed on the seal islands since 1882, and I have resided upon them continuously for ten years, and have a personal knowledge of seal life as it exists on these islands and in the waters surrounding them, and there is less than one-third as many seals coming to the islands last year than there was in 1882. The decrease in the number of seals coming to the islands was first noticed and talked about in two or three years after I first came to live here; and since 1887 the decrease has been very rapid.

A careful inspection of the rookeries each returning season since 1887 showed that the cows were getting less and less, although it was a rare thing to find a cow seal that did not have a pup at her side.

Ten or twelve years ago the rookeries and sea were full of seals, but now there is not a great many; we used to kill 85,000 in less than two months' time on St. Paul Island, and our people earned plenty of money to buy everything they wanted, and in the winter we killed 2,000 or 3,000 male pups for food and clothing. Now we are not allowed to kill any more pups, and only 7,500 male seals for food, and our people are very much worried to know what is to become of themselves and children.

I remember the first time I noticed a decrease of seals on the rookeries, about seven or eight years ago, and the seals have become fewer every year since. We used to kill 85,000 seals on St. Paul Island in less than sixty days' time until 1890, when they became so few we could not take more than about one-fourth of that number in the same length of time.

All our people know the seals are getting seareer every year, and we think it is because of the schooners coming in and shooting the cows in the sea.

About 1885 a decrease was observed, and that decrease has become more marked every year from 1885 to the present time.

There are not one-fourth as many seals now as there were in 1882, and our people are very much alarmed to know what is to become of them after the seals are killed off. If the seals decrease as fast as they have during the past five or six years there will be none left in a very short time for us to live upon.

During the time from 1885 to 1889 there was a very marked decrease in the size of the breeding grounds on St. Paul Island, and from 1887 to 1889 I also noticed a great decrease in the areas covered by the rookeries on St. George Island.

In his reports of 1886 and 1887 George R. Tingle, special Treasury agent in charge of the seal islands, reported having measured the rookeries on the islands, and that the seals had largely increased in number, giving the increase at about 2,000,000. From this report I dissented at the time, as I was unable to see any increase, but on the contrary a perceptible decrease, in the rookeries. I expressed my views to many on the islands, and all agreed that there had been no increase in seal life. I do not think that there was a single person on the island except Mr. Tingle who thought there had been increase, or, in fact, that there had not been a decrease in seal life. The measurements of the rookeries on which Mr. Tingle relied were made with a common rope, by ignorant natives, while the seals were absent from the islands, the grounds covered by them being designated by Mr. Tingle from memory.

That during the three years following 1882, namely, 1883, 1884, and 1885, I was not upon the islands; that upon my return to said islands in 1886 I noticed a slight shrinkage in the breeding areas but am unable to indicate the year of the period of my absence in which the decrease of breeding seals began; that from the year 1886 to 1889, inclusive, my observation was continuous and that there was a greater decrease of the seals for each succeeding year of that period, in a cumulative ratio, proportionate to the number of seals killed by pelagic sealers. *H. H. McIntyre, p. 45.*

In 1886 I again assumed personal direction of the work upon the islands, and continued in charge up to and including 1889. And now, for the first time in my experience, there was difficulty in securing such skins as we wanted. The trouble was not particularly marked in 1886, but increased from year to year to an alarming extent, until in 1889, in order to secure the full quota and at the same time turn back to the rookeries such breeding bulls as they seemed to absolutely need, we were forced to take fully 50 per cent of animals under size, which ought to have been allowed one or two years more growth. Concerning this matter I reported to the Alaska Commercial Company under date of July 16, 1889, as follows: "The contrast between the present condition of seal life, and that of the first decade of the lease is so marked that the most inexpert can not fail to notice it. Just when the change commenced I am unable, from personal observation, to say, for as you will remember I was in ill health and unable to visit the islands in 1883, 1884, and 1885. I left the rookeries in 1882 in their fullest and best condition, and found them in 1886 already showing slight falling off, and experienced that year for the first time some difficulty in securing just the class of animals in every case that we desired. We, however, obtained the full catch in that and the two following years, finishing the work from the 24th to the 27th of July, but were obliged, particularly in 1888, to content ourselves with smaller skins than we had heretofore taken. This was in part due to the necessity of turning back to the rookeries many half-grown bulls, owing to the notable scarcity of breeding males. I should have been glad to have ordered them killed instead, but under your instructions to see that the best interests of the rookeries were conserved, thought best to reject them. The result of killing from year to year a large and increasing number of small animals is very apparent. We are simply drawing in advance upon the stock that should be kept over for another year's growth." *H. H. McIntyre, p. 50.*

Q. How does the number of seals on the rookeries this year compare with the number four or five years ago?—A. The number now is about one-fourth of what they were then.

Noen Mandregin et al.,
p. 140.

In 1887 I began to notice a diminution in the number of seals arriving at the islands, which was due to the indiscriminate killing by sealing vessels in the open sea, some 50 or 60 miles distant.

Jno. Malowausky, p. 197
(*Commander Islands*).

While we still obtain about the usual number of skins, many are taken from the younger animals than formerly, and are somewhat inferior in quality.

But from 1885, which was about the time the sealers appeared in the waters, the decrease in seal life was rapid and the natives commenced saying "no females," "no females," until now we are confronted with depleted rookeries and probable extermination.

Jno. Malowausky, p. 199
(*Commander Islands*).

Anton Melovedoff, p. 139. Q. Have you noticed any perceptible difference in the number of seals on rookeries from one year to another?—A. Yes.

Q. What changes have you noticed?—A. They have been getting less every year for about the last six years.

Q. About how much less is the number of seals during the past year than they were six years ago?—A. The number of seals this year are about one-fourth of what they were six years ago, and about one-half of what they were last year.

Q. In what way do you form your above opinion as to the relative number of seals on the rookeries?—A. By the fact that many spaces on the rookeries which were formerly crowded are now not occupied at all.

About 1886 I noticed that the lines of former years were not filled with cows, and every succeeding year since then has shown a more marked decrease. In 1889 the bachelors were so few on the hauling grounds that the standard weight of skins was lowered to 5 pounds, and hundreds were taken at only 4 pounds in order to fill the quota of 100,000.

A. Melovedoff, p. 143.

Until the schooners came into Bering Sea the rookeries were always well filled, and many of them had grown steadily for years, until it was no uncommon thing for the lessees to take the quota of 85,000 seals on St. Paul Island between June 1 and July 20 of each year. After 1884, when the original two or three sealing vessels had grown to be a well organized fleet, we found a steady decrease of seals on all the rookeries and we found it difficult to secure the quota of skins, and in 1889 the lessees had to lower the standard of weight lower than ever before in the history of the island.

Simcon Melovidov, p.
146.

From the year 1874 till 1885 we were able to get from St. George and St. Paul islands 100,000 male seals within the period known as the sealing season of six weeks, from the 10th of June to the 1st of August, and still leave a large percentage of marketable seals. In 1885, and in

T. F. Morgan, p. 63.

every year thereafter until I left in 1887, there was a marked decrease in the number of marketable skins that could be obtained in each year during the sealing season. We were able, down to the last year (1887) to get our total catch of 100,000 seals, but in order to get that number we had to take what in previous years we would have rejected, namely, undersized skins, *i. e.*, the skins of young seals. Prior to 1887 we had endeavored to take no skins weighing less than 8 pounds, but in order to make up our quota in the last-mentioned year we had to take skins weighing as little as $6\frac{1}{2}$ pounds to the number of several thousand.

In the years 1885, 1886, and 1887 my attention was attracted not only to a diminution in the number of killable seals appearing on the island, but to a decrease in the females as well. Up to the year 1884 the breeding space in the rookeries had increased, and from that year down to 1887, when I left the island, the acreage covered by the rookeries which were occupied by seals constantly diminished. *T. F. Morgan, p. 64.*

That my attention was called to the decrease of seals and the depletion of the rookeries at an early date after my arrival, and that I attempted to study the habits and conditions and to note the numbers of seal on the several rookeries and hauling grounds, and that the natives and employes of the Alaska Commercial Company were unanimous in their opinions that the seal had been decreasing steadily and rapidly since 1884, and I reported the fact to Agent Goff, who had found similar conditions existing on St. Paul, and he so reported to the Department and suggested that not more than 60,000 seals should be taken in any one season in future. *Joseph Murray, p. 73.*

In pursuance of instructions from Agent Goff I left St. George Island on the 19th of July, 1890, and landed on St. Paul Island on the 20th of the same month, and remained there until August, 1891. During the month of July, 1890, I walked over the rookeries and hauling grounds of St. Paul Island and Agent Goff pointed out to me the lines to which in former years the seals hauled and the large areas which they covered; and then he called my attention to the small strip covered by seals on that date, which was smaller than the year previous.

Agent Goff stopped the killing of seals by the lessees on and after the 20th of July, 1890, because of the depleted condition of the hauling grounds; and I fully concurred in his order and action. I spent the sealing season of 1891 on St. Paul Island, and pursuant to instructions of Agent Williams, I gave my time and special attention to the study of the condition of the rookeries, both the breeding and grounds. I visited the rookeries daily from the 7th to the 22d of July—during the period when the rookeries are fullest and at their best—and I carefully noted their condition and the number of seals; the number of cows to the family, and the number of idle, vigorous bulls upon each rookery.

Upon my first visit to the rookeries and hauling grounds of the island of St. Paul, my attention was attracted to the evidences of recent and remote occupancy by the seals. Marked differences were noticeable in the appearance of vegetation on large areas formerly occupied as breeding and hauling grounds, while near the water's edge, more recently occupied, the ground was entirely bare of vegetation, enabling one to trace *S. R. Nettleton, p. 75.*

the gradual decrease of areas occupied during the last six to eight years. My examination of the rookeries on St. Paul and St. George during the years 1890-'91 and 1892 enabled me to trace the yearly decreasing area occupied by the fur-seals on these islands. Aside from the evidences of deserted rookeries and hauling grounds shown by the grounds themselves, I was shown by native inhabitants of each island the grounds occupied in former years now deserted and grass-grown. The silent witness of the deserted rookeries bears out the testimony of the resident agents of the lessees of the islands, and of the native inhabitants of the islands, that the number of seals on the islands began to decrease with the advent of pelagic sealing, and that the yearly decrease has been in proportion with the yearly increase in the number of vessels engaged in that enterprise.

The decrease in the number of seals coming to the islands in last three or four years became so manifest to everyone acquainted with the rookeries in earlier days that

L. A. Noyes, p. 83.

various theories have been advanced in an attempt to account for the cause of this sudden change, and the following are some of them: 1st, "A dearth of bulls upon the breeding rookeries;" 2d, "Impotency of bulls, caused by overdriving while they were young bachelors;" and 3d, "An epidemic among the seals."

Q. Have you noted any perceptible difference in the number of seals on the rookeries from one year to another? If so,

J. C. Redpath, p. 140.

what changes have you observed?—A. Within the last four five years I have observed a decided decrease in the number of seals on the rookeries.

Q. In what proportion have the seals decreased within the time mentioned?—A. As far as my judgment goes, I should say at least one-half.

As the schooners increased the seals decreased, and the lines of contraction on the rookeries were noticed to draw

J. C. Redpath, p. 151.

nearer and nearer to the beach, and the killable seals became fewer in numbers, and harder to find. In 1886 the decrease was so plain that the natives and all the agents on the islands saw it and were startled; and theories of all sorts were advanced in an attempt to account for a cause.

I had no difficulty in getting the size and weight of skins as ordered, nor had my predecessors in the office, up to and

Leon Sloss, p. 91.

including 1884. The casks in which we packed them for shipment were made by the same man for many years, and were always of uniform size. In 1885 these casks averaged about 47½ skins each, and in 1886 they averaged about 50½ skins each, as shown by the records in our office. After this date the number increased, and in 1888 they averaged about 55½ skins per cask, and in 1889 averaged about 60 skins per cask. These latter were not such skins as we wanted, but the superintendent on the islands reported that they were the best he could get.

The number of seals on the Pribilof Islands is decreasing. I saw positive proof of this on St. Paul Island last season.

Z. L. Tanner, p. 375.

I had an excellent opportunity to observe some of the seal rookeries during my first visit to the islands, and spent much time in studying the habits of the seals, both on the rookeries and in the adjacent waters. I was particularly impressed with the great numbers to be seen both on land and in the water. During the summer of 1889 the *Rush* was so actively engaged cruising in pursuit of vessels engaged in illegal sealing that our anchorages off the seal rookeries that season were short and infrequent; hence I did not have the opportunity to observe them as closely on land as the preceding year. *Francis Tuttle, p. 487.*

During 1890 the *Rush* was not engaged in preventing sealing outside the shore limit, and we spent much time in full view of the seal rookeries and cruising about the seal islands, and I also made frequent visits to the breeding grounds.

The deserted appearance of the rookeries and the absence of seals in the water was very noticeable and was a matter of general remark among the officers of the vessel who had been on the former cruises. Very large tracts of the rookeries which I had formerly seen occupied by the seals were entirely deserted, and the herds were much smaller than those of 1888. My attention was also called, by those conversant with the facts, to the grass growing on the inshore side of some of the rookeries, and to the three different shades of grass to be seen, indicating the spaces that had not been occupied by the seals for several years, owing to their diminished number. The darker shade showed where the growth first commenced, and a lighter shade for each succeeding year. There were three or four differently shaded growths, reaching down to the sand of the rookeries, and on that portion of the rookeries occupied by seals they were not lying near as compact as in 1888.

In our frequent passages during 1890, between the Aleutian group and the seal islands, we sometimes made an entire passage without seeing a seal. This was entirely different from the experience of the preceding years, indicating a great falling off of seal life.

In the year 1880 I thought I began to notice a falling off from the year previous of the number of seals on Northeast Point rookery, but this decrease was so very slight that probably it would not have been observed by one less familiar with seal life and its conditions than I; but I could not discover or learn that it showed itself on any of the other rookeries. In 1884 and 1885 I noticed a decrease, and it became so marked in 1886 that everyone on the islands saw it. This marked decrease in 1886 showed itself on all the rookeries on both islands. *Danl. Webster, p. 181.*

Until 1887 or 1888, however, the decrease was not felt in obtaining skins, at which time the standard was lowered from 6 and 7 pound skins to 5 and 4½ pounds. The hauling grounds of Northeast Point kept up the standard longer than the other rookeries, because, as I believe, the latter rookeries had felt the drain of the open-sea sealing during 1885 and 1886 more than Northeast Point, the cows from the other rookeries having gone to the southward to feed, where the majority of the sealing schooners were engaged in taking seal.

That in pursuance of Department instructions to me of May 27, 1891, I made a careful examination during the sealing season of the habits, numbers, and conditions of the seals and seal rookeries with a view of reporting to the Department from observation and such knowledge on the *W. H. Williams, p. 93.*

subject as I might obtain whether or not in my opinion the seals are diminishing on the Pribilof Islands, and, if so, the causes therefor; that as a result of such investigation I found from the statements made to me by the natives on said islands, Government agents, employes of the lessees, some of whom had been on said islands for many years, that a decrease in number of seals had been gradually going on since 1885, and that in the last three years the decrease had been very rapid.

A careful and frequent examination of the hauling grounds and breeding rookeries by myself and assistant agents during the months of June, July, and August showed that the seals had greatly diminished in number, and we found large vacant spaces on all the rookeries which in former years during these months had been covered by thousands of seals; that prior to 1888 the lessees had been able to take 100,000 skins from male seals, but I am clearly of the opinion that not more than one-third of that number of merchantable skins could have been taken during the year 1891.

ALONG THE COAST.

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I know that the seals are much more scarce this year than they were last year. I do not think it is right to kill the mother seals with pups in them.

H. Andrius, p. 314.

When I was a boy, seal were speared among the islands in Sitka Sound, but now the few that come along the coast we are obliged to go far out to sea in order to get.

Adam Ayonkee, p. 255.

Q. Has there been any decrease in the quantity of seals as compared to previous years?—A. There has been a decided decrease. Vessels that used to get with experienced hunters 3,000 or 4,000 in a season, now get with experienced hunters less than half of that number.

George Ball, p. 483.

I find the skins in this lot to run much larger in sizes than those known as the Northwest seals that are now taken on the American side. The greater percentage of these 2,170 salted fur-seal skins are of the large breeding cows with fully developed teats.

Charles J. Behlow, p. 404.

Some years ago the catch of the Northwest seals taken in the North Pacific Ocean and the Bering Sea (on the American side) contained a great number of the large breeding cows as above described; but of late years, on examining the catches, I find very few; and this year hardly any, proving conclusively that the old stock of productive cows is almost exterminated.

There has been a great decrease of seals in the last few years from what there was in former years. They are also getting shy and scared from being hunted so much, and they are now very hard to catch.

William Bendt, p. 404.

I don't think the seals are as plentiful as they were last year, and the hunting of them should be stopped in the North Pacific Ocean.

315.

Bernhardt Bleidner, p.

I can not say positively as to the decrease in numbers, but I know they are much more shy now than when I commenced sealing.

Niels Bonde, p. 316.

In 1891 I noticed that there was a considerable decrease in the number of seals seen in the water; also, that they were more shy and wakeful, as compared with my observations in 1890.

Henry Brown, p. 318.

About six or seven years ago I commenced to notice a decrease in the number of seals arriving in the straits and around the cape.

Peter Brown, p. 377.

I did not see as many seals as the years previous; I left the vessel in April at Victoria, British Columbia. The seals upon this voyage were more shy than in 1889 and more difficult to capture.

Thos. Brown, (No. 1), p. 319.

Seals used to be very plentiful around the cape and in the Strait of San Juan de Fuca, but they have been rapidly decreasing during the last five or six years. We were out sealing a short time ago and captured but five seals. A few years ago, during the same period of time, we would have caught about sixty. They are wilder now and more difficult to catch, and will soon be destroyed if guns are used in hunting them.

Landis Callapa, p. 379.

There was much less number of seals to be seen in the North Pacific and Bering Sea in 1890 than in 1888.

Chas. Chalall, p. 410.

Seals used to be plentiful in the straits, but for the last five or six years they have become very scarce in the straits, so that now we can not find any more there. We used to hunt seals in canoes for about 20 miles out in the ocean, off Cape Flattery and up and down the coast, between Greys Harbor and Barclay Sound. Seals were very plentiful along the coast six or eight years ago.

Circus Jim, p. 380.

When white men or traders began coming in here with schooners they offered us large inducements to go cruising for seals and we commenced going further from land but did not notice any decrease in the number of seals each year, until about six or seven years ago, when vessels with white hunters and armed with shotguns began to appear in considerable numbers off the coast. Since that time the decrease has been very rapid.

Jas. Claplanhoo, p. 382.

But during the last four or five years there have not been near as many coming to the strait [Of San Juan de Fuca] or on the coast as in former years. There are a few in the strait, but we do not hunt them now, and can not secure more than one-sixth as many in a season as we used to a few years ago.

Jas. Claplanhoo, p. 387.

My observations and experience in 1889 were about the same as in the previous year, except as to the number of seals seen, which was much smaller. There was a perceptible decrease in the number of seals seen by me in the year 1889 as compared with the year 1888.

Louis Culler, p. 321.

Hunters talk about the seals increasing from year to year, but I know they are decreasing, and if they keep on killing them the way they do now there will not be any left in a few years.

Alfred Dardean, p. 323.

A few years ago seals were very plentiful in the Straits of San Juan de Fuca. It is not now so. They are so scarce in the straits that we do not hunt for them there any more. * * *

Frank Davis, p. 383.

One time, when hunting along the coast with a spear, our canoe took 100 seals in five days, but we can not catch as many now. They are very shy and wild, so that if we get two or three now in five days we would be doing very well. I have caught only eight seals this year. Before the white man came here to hunt seals with the shotgun and rifle, five or six years ago, they were not so wild as they are now, and by this time in a year I would have had a hundred or more seals.

Years ago, in the winter time, seals were plenty in the Straits of San Juan de Fuca, and I have hunted and helped to catch them up the straits as far as Pysht, which is about 37 miles from Cape Flattery. Of later years they have quit coming in the straits and we do not hunt for them there any more.

Jeff Davis, p. 384.

Since the seal hunting began to be industriously pursued about the years 1884-'85, and the transfer of American schooners to the British flag at Victoria, British Columbia, took place to avoid seizure, I have been made acquainted, both from observation and conversation with sealers, of the fact of the growing scarcity of seals.

Jas. H. Douglass, p. 384.

The Indians report to me that the seal are very much scarcer than they were in former years, and I know that they don't bring in as many skins as they did in former years, although skins are bringing a much better price than they used to.

Wm. Duncan, p. 279.

From the reports of the officers to me I learned that the seals were much scarcer in 1891 than they were in 1888, when I first sent them out.

Geo. Fogel, p. 424.

I have gone out of the business because it became so unprofitable on account of the scarcity of seals.

* * * * *

A few years ago you could go off shore about 50 miles from San Francisco and you would come across thousands of seals leisurely going north, while now we see but very few. I fitted out the schooner *Cygnet* in 1874, which was one of the first sealers to go to the Bering

Sea, and we had no trouble in getting seals at that time, for they were very plentiful and gentle, and would stand up and look at the hunters until they shot them. You can not do that now. Seals have been growing very scarce within the last few years, and it does not pay to fit out sealing schooners.

I don't know what to think about the schooners. *Chief Frank, p. 280.*
There is one thing certain, seals are getting scarce.

There were not as many seals last year as there were the first years I went. *Wm. Frazer, p. 427.*

There has been a great decrease in the number of seals to be seen in the North Pacific and Bering Sea since I first went out to hunt them. *Thos. Gibson, p. 432.*

To my knowledge, and from conversation with others, I can state positively that seals have decreased rapidly in numbers off the Pacific coast in the last five or six years. A schooner used to secure from 700 to 1,400 skins for a spring catch, whereas now, with all the improved appliances of arms and vessels, the largest catch is less than 500. *E. M. Greenleaf, p. 325.*

Q. Have you noticed any decrease in the quantity of animals in the last few years?—A. As I have not hunted on this coast for several years I am unable to say. When I was there I saw no difference. *Chas. G. Hagman, p. 435.*

Seals were not as plentiful along the coast this year as they were in 1891. *Jas. Harrison, p. 327.*

It is reported to me by Indians who hunt fur-seal that they are becoming very scarce. They have noticed decrease in the last four years. *Jac. Hartlissuk, p. 239.*

Fur-seal are getting very scarce along this coast and Indian fur-seal hunters have great trouble in getting any now, while in former years they got plenty. *Sam Hayikahtla, p. 239.*

Q. Have you noticed any decrease in the quantity of animals in the last few years? In other words, do you find them as plenty now in the last year or two as you used to?—A. Of course not. They are not so plentiful, that is sure. In 1880 we got 2,100 seals. Now you couldn't get 300 in the same time. *H. Harmsen, p. 442.*

I have noticed a decrease in number of seals from year to year in the waters of the Bering Sea since about 1886, and for the last three years the decrease has been very rapid. Up to about 1884 the Bering Sea around the Pribilof Islands, and between said islands and the passes, was swarming with seals during the breeding season, but for the last few years the decrease in numbers has been so marked that I could not fail to notice it. *J. M. Hays, p. 26.*

Q. Has there been any decrease in the quantity of seals as compared to previous years?—A. I think there has been a decrease of seals as compared to previous years of about 25 per cent or more.

Wm. Henson, p. 484.

Q. Has there been any decrease in the quantity of seals, as compared to previous years?—A. Well, for the length of time that I have been out there is not much difference.

Andrew J. Hoffman, p. 447.

Gustave Isaacson, p. 440. Q. Have you noticed any decrease in the quantity of seals in the last few years?—A. Yes, sir; a great decrease.

Seals are diminishing along the coast, and unless pelagic sealing is stopped in the Pacific Ocean the seal will become exterminated.

Victor Jacobson, p. 328.

Q. Have you noticed any decrease in the quantity of animals in the last few years?—A. I have found a decrease. I have not been doing much sealing in the last three or four years. I have been otter hunting, principally.

Frank Johnson, p. 441.

Jack Johnson, p. 282. Seal are not nearly as plentiful on the coast as in former times.

About six years ago I noticed the seal herd began to decrease, and they are getting less each year ever since the white hunter came about here and commenced killing them with guns. * * *

Selwish Johnson, p. 388.

They are very scarce now, and very wild and difficult to catch.

The seals were not near as plentiful along the coast and Bering Sea in 1891 as they were in 1890. They wanted me to ship this year on a sixth lay—that is, every sixth skin was to be mine—but I thought the seals were so scarce it would not pay me to go. It is the common conversation among us hunters that the seals are getting so scarce it does not pay for us to go and hunt them unless they will give us a better price per skin, and a great many of the old hunters would not go out this year on that account.

Jas. Kean, p. 448.

In 1888 I made a fishing voyage to the Bering Sea, and while in there heard the captain and officers discussing about the decrease of seals on the islands and in the water. I heard it discussed on our return at the different ports we put in at, and also in Victoria on our arrival, and all said the seals were decreasing.

James Kennedy, p. 449.

I have often conversed with many other persons who, like myself, were engaged in sealing, and they agreed with me in the statements herein made as to the destruction and disappearance of the seals in the northern waters. My view of the matter could, I have no doubt, be corroborated by hundreds of persons experienced in sealing, if they be

James Kiernan, p. 451.

found. At this season of the year, however, they are absent from the coast hunting and fishing on the ocean.

Seals are getting very scarce on the coast the last three or four years.
 * * * Indian hunters can not get any more
 in canoes, on account of the few seals that are left *Kinkooga, p. 240.*
 are so far from the land.

At every village (and we stopped at over nine on Vancouver Island) I interrogated the Indians to the best of my ability, and they all agreed there were very few seals *Francis R. King-Hall, p. 332.*
 now compared with the great numbers which were found formerly, and that this decrease began five or six seasons ago.

When I first began to hunt seals the females were plenty, but now they are not so plenty. *Jas. Klonacket, p. 283.*

They were formerly much more plentiful than of late years. In the early part of the season the males are most numerous, a few females being taken toward its close, in the latter part of May. *Frank Korth, p. 235.*

It is harder to find the pups now than it was a few years ago. There does not seem to be so many of them as there used to be. *Ivan Krukoff, p. 209.*

Seals first appear in Prince William Sound about the 1st of May, and were formerly quite plentiful, while now they are becoming constantly scarcer. *Olaf Kvam, p. 236.*

I often converse with the masters of the vessels relative to the fur-seal, and they tell me that they are scarcer each year, and that it is much harder to make a voyage than it used to be. * * * *Jas. Laflin, p. 451.*

From my experience in dealing with the people interested in sealing, and from my own personal observation, I know the seals are decreasing very fast in Bering Sea.

Deponent further says that by reason of his knowledge of the business he knows that the number of seals has greatly diminished within the last five years. *Herman Liebes, p. 514.*

I have noticed in examining the skins of the northwest or "Victoria catch" during the last two years that they average much smaller in size than they formerly did. The large breeding cows, of which this catch used to contain a considerable percentage, are now almost entirely absent, showing conclusively that the old stock has been exterminated, and the supply upon which they are now drawing is comprised of younger animals. *Isaac Liebes, p. 453.*

From what I learned when fishing in the Bering Sea there are not nearly as many seals there as there were ten years ago. *Caleb Lindahl, p. 456.*

I think I noticed fewer seals that year than I did in 1889. Seals along the coast are not near as plentiful now as they were when I first began to hunt them. I used to catch 9 or 10 seals in one day; but they are so shy, and so scarce now, that a canoe does not get that many in a month.

Thos. Lowe, p. 371.

Have noticed a decrease in seal along the coast, and it is the general opinion that they are decreasing very fast.

J. D. McDonald, p. 266.

Q. Have you noticed any decrease in the quantity of seals in the last few years over what it was a few years formerly?—

Alexander McLean, p. 437.

A. I have noticed a decrease since I have been in the business; I have made a catch from 3,500, coming down to 1,500, a little less than one-half.

Q. You do not consider there are nearly as many seals now as there used to be in the water?—A. No, sir; not now. I have been in the business for ten years, and I think in another ten years there will be a great deal less.

Thos. Madden, p. 463.

The seals were not nearly as plentiful in 1891 as they were in 1888. I think they are decreasing rapidly.

There are not near as many hunters hunting seal as there used to be, for the seal are decreasing very fast. I know, because I am hunting seal all the time.

Fredk Mason, p. 284.

Wm. Mason, p. 466.

The hunters say the seals are getting scarcer all the time, and that it does not pay to go unless they get more for a skin.

Thorval Mathasan, p. 339.

I think the seals are not so plentiful on the coast as last year. * * *

Seals did not seem to be near as plentiful as last year.

They were formerly found in this region in great numbers, but of late years they have been constantly diminishing, owing to the number of sealing vessels engaged in killing them.

Metry Monin et al., p. 225.

Q. Have you noticed any decrease in the quantity of animals in the last few years?—A. There is no doubt but what there is a decrease.

Frank Morcau, p. 468.

Jno. Morris, p. 340.

Seals are scarcer now than in former years.

When I was in the sea in 1887 seals were very plentiful there, but in 1889 there were not so many, and in 1891 there were fewer still.

Moses, p. 310.

When I was a small boy fur-seal used to come into Clarence Straits, but it has been a good many years now since any fur-seal have been seen there.

Smith Natch, p. 298.

There have only been two seal killed by the four canoes hunting off Cape Muzon this season, which shows plainly enough that the seal are most all gone.

Dan Nathlan, p. 287.

Fur-seal are not as plentiful on the coast as they used to be. The Indians kill but very few now. In former years they used to get many of them, but the last few years they have become very scarce and the Indian hunters take very few.

Nechantake, p. 241.

I believe there has been a great decrease in the number of the fur-seals frequenting the Pribilof Islands. Years ago I used to see a great number of them in Bering Sea while making passage between Unalaska and the Pribilof Islands during the breeding season, but now only a few are seen, and these are observed much nearer to the islands than was formerly the case.

Arthur Newman, p. 211.

Seals were not so thick in the sea that year as they were about four years previous to that time. Seals are likewise rapidly decreasing all along the coast.

Osly, p. 391.

Seals were much less in numbers off the coast in 1890 than they were about 1885. They have either been destroyed or driven off. We had no trouble in making a season on the coast, weather permitting, of from 700 to 1,300, and now 500 is a good catch.

William Parker, p. 344.

Seals are very much more scarce than they were when I began to seal in schooners. I never see any more big herds like I used to, and it is much more difficult to get to them now than in former years. They have got wild and shy, because they have been hunted too much with guns.

Wilson Parker, p. 392.

I used to hunt for seals in the Straits of San Juan de Fuca, but of late years have not done so because the seals do not come into the straits any more.

There are not as many seal-skins offered for sale now as in former years, and last year our people caught less than one eighth of what they used to prior to 1886.

Chestoqua Peterson, p. 393.

Do not think there are now as many fur-seals as there were thirty years ago, but do not know the cause of the decrease.

Elijah Prokopief, p. 215.

During past four years have not noticed much change in number of seal.

W. Roberts, p. 242.

I do know that where Indians formerly went out and brought back fifteen seals they scarcely bring back one now.

Abel Ryan, p. 299.

I noticed a decrease in the number of seals off Cape Flattery when there in 1891, as compared with the other season.

Wm. Short, p. 348.

Showoosch, p. 243.

I haven't killed any seal lately, as they are getting very searee.

In former years I found great numbers of fur-seals, but within the last few years I have observed that they have greatly diminished in numbers, so that now I do

Alexander Shyha, p. 226.

not find any off Cape Elizabeth and the adjacent region, where formerly they abounded.

Skeenong, p. 244.

Have heard all the Indians with whom I have come in contact say that the fur seal are becoming very searee of late years.

All the hunters went out hunting this season, and returned home discouraged, only catching two fur-seals. The fur-seal, like the sea-otter, are all gone.

Geo. Skultka, p. 290.

To the best of my knowledge and belief fur-seal life has considerably diminished within the past few years, which fact

Jno. W. Smith, p. 233.

I attribute to the large number of vessels which have been engaged in pelagic seal hunting of late years.

Q. Has there been any decrease in the quantity of seals as compared to previous years?—A. There has been a decrease. From the time I started sealing I guess there has been a decrease of 25 per cent.

Gustave Sundvall, p. 481.

They were not nearly as plentiful that season as they were in 1890.

Adolph W. Thompson, p. 486.

When spear was used seal were very plentiful; since shotgun is used they are becoming very searee.

Charlie Tlaksatan, p. 27.

Sealers report that seals are not as plentiful as in former years.

John C. Tolman, p. 222.

From my personal observation I know there has been a very great decrease within the past four or five years in the number of seals found in the North Pacific and and Bering Seas.

Chas. T. Wagner, p. 212.

Seal are decreasing on the coast. Have noticed they have decreased rapidly the last two years.

Rudolph Walton, p. 272.

Five years ago it was a common occurrence to sail past large numbers of fur-seals; many times we found them asleep on the water, and they were not easily frightened at the presence of a vessel, but for the last two years the seals have been more scattering, fewer in numbers, and much more shy.

M. L. Washburn, p. 488.

In my journeys in these waters I have noticed that seals are much less plentiful than when I first went there five

years ago, and that the decrease has been very marked in the last two years.

M. L. Washburn, p. 489.

Within the last five or six years the seals are becoming fewer and fewer, and are wild and shy and very hard to catch. *Watkins, p. 395*

Last year there were fewer than ever before. This season the natives caught about one-half as many as last. In his opinion the seals will soon be exterminated, and in three years there will be no more sealing. *Weckenunesch, p. 272.*

Until about eight years ago I used to catch seals in the Straits of San Juan de Fuca, but for the last two or three years they have been so scarce in the straits that we do not try to hunt them any more. *Wispuo, p. 396.*

Seal have become very scarce around Prince of Wales Island since the white men began hunting them in schooners. *Billy Yeltachy, p. 302.*

* * * * *

The Indians are obliged to go a long way now for seal. I have been out three times this year and have only killed one seal, and only saw two or three this season.

Seals are much scarcer now than they used to be six or eight years ago. They used to go ten or fifteen in a bunch, but now we seldom see more than two or three together. *Thos. Zolnoks, p. 398.*

CAUSE.

LACK OF MALE LIFE NOT THE CAUSE.

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The abundance of male life for service upon the rookeries was evidenced by the number of young bulls which continually sought lodgment upon the breeding grounds. *J. Stanley Brown, p. 14.*

It is highly improbable that the rookeries have ever sustained any injury from insufficient service on the part of the males, for any male that did not possess sufficient vitality for sustained potency would inevitably be deprived of his harem by either his neighbor or some lusty young aspirant, and this dispossession would be rendered the more certain by the disloyalty of his consorts.

The seal being polygamous in habit, each male being able to provide for a harem averaging twenty or thirty members, and the proportion of male to female born being equal, there must inevitably be left a reserve of young immature males, the death of a certain proportion of which could not in any way affect the annual supply coming from the breeding grounds. These conditions existing, the Government has permitted the taking, with three exceptions, up to 1890, of a quota of about *J. Stanley Brown, p. 18.*

100,000 of these young male seals annually. When the abundance of seal life, as evidenced by the areas formerly occupied by seals, is considered I do not believe that this could account for or play any appreciable part in the diminution of the herd. * * *

From my knowledge of the vitality of seals I do not believe any injury ever occurred to the reproductive powers of the male seals from redriving that would retard the increase of the herd, and that the driving of 1890 necessary to secure about 22,000 skins could not have caused or played any important part in the decrease that was apparent on every hand last year.

The whole time I was there there was an ample supply of full-grown vigorous males sufficient for serving all the females on the islands, and every year a surplus of vigorous bulls could always be found about the rookeries awaiting an opportunity to usurp the place of some old or wounded bull, unable longer to maintain his place on the breeding grounds. I should except from this general statement the seasons of 1873 and to 1875, when the destruction of young males in 1868, and the error made by the company under their misapprehension as to the character of skins to be taken for market, perceptibly affected the males on the breeding grounds. It is not certain that the fertilizing of the females was thereby affected, and this gap was filled up, and from this time on there was at all times not only a sufficiency but a surplus of male life for breeding purposes.

Plenty of bulls all the time on the rookeries, and plenty bulls have no cows. I never seen a three-year-old cow without a pup in July; only two-year-olds have no pups.

Chas. Bryant, p. 7.

I never noticed any disproportion of the sexes that would lead me to suspect that the "bull" seals were too few, nor more than an occasional barren "cow." These latter were so few as to excite no remark; but if any such disproportion did, in fact, exist in 1888 and 1889 it was the fault of those who killed them at sea, because it never occurred at all until the marine hunters became numerous and aggressive. I mention this matter here because, since I left the island, I have heard it asserted that the mismanagement there caused the decrease of seal life. The management there was just such as I would follow if all the seals belonged to me.

H. N. Clark, p. 159.

I never saw any impotent bulls on the rookeries, and do not believe there ever was any, unless it was the result of age; nor do I believe that young male seals were ever rendered impotent by driving. There has always been a plenty of bulls on the rookeries for breeding purposes ever since I have been on the islands.

C. L. Fowler, p. 25.

I never knew of a time when there were not plenty of bulls for all the cows, and I never saw a cow seal—except a two-year-old—without a pup by her side in the proper season. I never heard tell of an impotent bull seal, nor do I believe there is such a thing, excepting the very old

John Fratis, p. 109.

and feeble, or badly wounded ones. I have seen hundreds of idle vigorous bulls upon the rookeries, and there were no cows for them. I saw many such bulls last year.

During these years there was always a sufficiency of vigorous male life to serve all the female seals which came to the islands, and certainly during this period seal life was not affected by any deficiency of males. *H. N. Glidden, p. 109.*

The orders of the "boss" of the gang, in which I worked in 1888 and 1889, under the management of the Alaska Commercial Company, were not to kill the five-year old bulls, because they were, he said, needed on the rookeries. *Alex. Hansson, p. 116.*

We noticed idle vigorous bulls on the breeding rookeries, because of the scarcity of cows, and I have noticed that the cows have decreased steadily every year since 1886, but more particularly so in 1888, 1889, 1890, and 1891. *Aggei Kushen, p. 128.*

And I am satisfied a sufficient number of males was always reserved for future breeding purposes. *Abial P. Loud, p. 38.*

That during the twenty years I was upon said Pribilof Islands, as general agent of said Alaska Commercial Company there were reserved upon the breeding rookeries upon said islands sufficient vigorous bulls to serve the number of females upon said rookeries; that while I was located upon said islands there was at all times a greater number of adult male seals than was necessary to fertilize the females who hauled upon said rookeries and that there was no time when there were not vigorous bulls on the rookeries who were unable to obtain female consorts. *H. H. McIntyre, p. 45.*

So well was this necessity for reserving sufficient mature male life recognized that when in 1887, 1888, and 1889 the depleted rookeries (depleted from causes that will be explained further on) would not furnish the quota of 100,000 large skins, two and three years old male seals were taken to make up the quota in preference to trenching upon this reserve of maturer male life.

The policy of the Alaska Commercial Company, during the whole period of its lease, was, as might be naturally expected, to obtain the best possible skins for market and at the same time preserve the rookeries against injury, for it was not only in their interests to be able to secure every year, until the expiration of the lease, the full quota allowed by law, but they confidently expected, by reason of their good management of the business, and faithful fulfillment of every obligation to the Government, to obtain the franchise for a second term. I was, therefore, always alert to see that the due proportion of breeding males of serviceable age was allowed to return to the rookeries. This was a comparatively easy task prior to 1882, but became from year to year more difficult as the seals decreased. No very explicit orders were given to the "bosses" upon this point until 1888, because the bulls seemed to be plentiful enough, and because it was easier to kill and skin a small seal than a large one, and the natives were inclined for this reason to

H. H. McIntyre, p. 52.

allow the large ones to escape; but in 1888 and 1889 there was such a marked scarcity of breeding males upon the rookeries that I gave strict orders to spare all five-year-old bulls and confine the killing to smaller animals.

I have never known or heard tell of a time when there was not bulls enough and to spare on the breeding rookeries. I
Anton Meloredoff, p. 142. never saw a cow of 3 years old or over in August without a pup by her side. The only cows on a breeding rookery without pups are the virgin cows who have come there for the first time. I never went onto a rookery in the breeding season when I could not have counted plenty of idle vigorous bulls who had no cows.

Talk of epidemics among seals and of impotent bulls on the rookeries, but those who have spent a lifetime on the seal islands, and whose business and duty it has been to guard and observe them, have no knowledge of the existence of either. An important bull dare not attempt to go on a rookery, even had he a desire to do so. Excepting the extremely old and feeble, I have never seen a bull that was impotent.

Nor is there any shadow of fact for the idle statement made from time to time about a dearth of bulls on the rookeries
Simeon Meloridor, p. 146. or of impotent bulls.

I have talked to the old men of our people, men who can remember back over fifty years, and not one of them knows of a time when there was not plenty of bulls, and more than enough on the breeding rookeries, and no one here ever heard of an impotent bull. * * * It has been said that cows are barren sometimes because of the dearth of bulls, but such is not the case at all, for the only cows on the breeding rookeries in July or August without pups are the two-year-olds (virgins), which have come on the rookeries for the first time.

Despite the lowering of the standard weight of skins, care was taken annually on St. George that the residue of available male breeders was sufficient for the needs of the rookeries, and instructions to that effect were given to the assistants by the superintendent of the Alaska Commercial Company. In this we were aided by the inaccessible character of some of the hauling grounds.

During these years there were always a sufficiency of male seals for breeding purposes, and in every year I saw great numbers of idle, vigorous bulls about and back of the breeding grounds, which were unable to obtain females.
I. H. Moulton, p. 71.

During my observations in 1890, I was led to believe that the decrease was partly due to the lack of bulls on the breeding rookeries, and I so reported to Agent Goff; but after thoroughly investigating the subject the next year by daily visits to the breeding grounds of the several rookeries, where I saw nearly every cow with a pup by her side, and hundreds of vigorous bulls without any cows, I came to the conclusion that there is no truth in the theory, and that it was the cows that were scarce and steadily decreasing. Had I had a doubt it would
Jos. Murray, p. 74.

have been dispelled when I was informed that the combined fleets had warned ninety-one poaching schooners out of Bering Sea before August 25, 1891, and that each of the schooners had seal skins on board, which, in the aggregate, numbered about 30,000, of which 90 per cent were found to be females.

During my stay on the islands I have never seen a time during the breeding season when there has not been a number of large, vigorous young bulls hanging about the borders of the rookeries watching for an opportunity to get a position of their own. *S. R. Nettleton, p. 75.*

The "dearth of bulls theory" has been thoroughly and impartially investigated without discovering a cow of 3 years old or over on the rookeries without a pup by her side at the proper time, and I am convinced that the virgin females coming on to the rookeries for the first time are the only ones to be found there without pups. *L. A. Noyes, p. 84.*

The investigation established the additional fact that hundreds of vigorous bulls were lying idle on the rookeries without cows, and many others had to content themselves with only one or two.

The theory of "impotency of the bull through overdriving" while young was also found to be untrue, and it was shown that after 1878 all long drives on both islands had been abolished, and instead of driving seals from 6 to 12 miles, as was done in Russian times, none were driven to exceed $2\frac{1}{2}$ miles.

It is also a well-known fact that none but the physically strong and aggressive bulls can hold a position on the rookeries, and that a weak or an impotent animal has no desire to go there.

A dearth of bulls on the breeding rookeries was a pet theory of one or two transient visitors, but it only needed a thorough investigation of the condition of the rookeries to convince the most skeptical that there were plenty of bulls, and to spare, and that hardly a cow could be found on the rookeries without a pup at her side. *J. C. Redpath, p. 151.*

For five years I have given this particular subject my most earnest attention, and every succeeding year's experience has convinced me that there is not and never was a dearth of bulls. The theory of impotency of the young bulls because of overdriving when young is not worthy of consideration by any sane or honest man who has ever seen a bull seal on a breeding rookery; and as I have already answered the question of overdriving I will only add here that no young bull ever goes upon a breeding rookery until he is able to fight his way in, and an impotent bull has no desire to fight, nor could he win a position on the rookery were he to attempt it. The man is not alive who ever saw a six or seven year old bull seal impotent.

There was always in both seasons a great sufficiency of adult males to serve all the females coming to the island, and I noticed each year a great number of idle, vigorous bulls behind the breeding grounds who could not obtain consorts, and one of these extra bulls always took the place of an old male unable longer to be of use for breeding purposes. *B. F. Scribner, p. 89.*

And that the seals are not nearly so plentiful as they were five or six years ago. *M. L. Washburn, p. 489.*

There was never while I have been upon the islands any scarcity of vigorous bulls, there always being a sufficient number to fertilize all the cows coming to the islands. It was always borne in mind by those on the islands that a sufficient number of males must be preserved for breeding purposes, and this accounts partly for the lowering of the standard weight of skins in 1888. The season of 1891 showed that male seals had certainly been in sufficient number the year before, because the pups on the rookeries were as many as should be for the number of cows landing, the ratio being the same as in former years. Then, too, there was a surplus of vigorous bulls in 1891 who could obtain no cows.

During the season of 1891 nearly every mature female coming upon the rookeries gave birth to a young seal, and there was great abundance of males of sufficient age to again go upon the breeding grounds that year, as was shown by the inability of large numbers of them to secure more than one to five cows each, while quite a number could secure none at all. My investigation confirms what has been so often said by others who have reported upon this subject, and that is that the Pribilof Islands are the great breeding grounds of the fur-seals, and that they can be reared in great numbers on said islands, and at the same time, under wise and judicious restrictions, a certain number of male seals can be killed from year to year without injury to the breeding herds, and their skins disposed of for commercial purposes, thereby building up and perpetuating this great industry indefinitely, and thus adding to the wealth, happiness, and comfort of the civilized world, while, on the other hand, if the pelagic hunting of this animal is to continue, and the barbarous practice of killing the mother seal with her unborn young, or when she is rearing it, is to go on, it will be but a very short time before the fur-seal will practically become extinct and this valuable industry will pass out of existence.

RAIDS ON ROOKERIES NOT THE CAUSE.

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It may be worth while to add that the suggestion has been made that the decrease in the number of seals is due to piratical raids upon the islands themselves during the breeding season.

Report of American Commissioners, p. 378 of The Case.

While it is unquestionably true that such raids have occasionally occurred during the past, and that some skins have been obtained in that way, the number of these is so trifling in comparison with the annual pelagic catch as not to affect in any way the question under consideration. It is also difficult for one familiar with the rookeries and habits of the seal to conceive of a raid being made without its becoming known to the officers in charge of the operations upon the islands. The "raid theory," therefore, may be dismissed as unworthy, in our judgment, of serious consideration.

III. The statistics which I have examined, as well as all the inquiries made, show that in the raids upon the rookeries themselves by marauders the loss of seal life has been too unimportant to play any part in the destruction of the breeding grounds. The inhospitable shores, the expo-

J. Stanley Brown, p. 18.

sure of the islands to surf, the unfavorable climatic conditions, as well as the presence of the natives and white men, will always prevent raids upon the islands from ever being frequent or effective.

During my stay upon St. George Island several attempts were made by poachers to get on shore and steal the seal, but they succeeded, as far as I am aware, only on three occasions, and in all those three I do not think they killed more than 1,200 or 1,500 seals, including pups. If any

others had effected a landing we should have known it, for the rookeries were constantly watched and the natives are very keen in this matter.

We tried to make a raid on St. George, but the *Corwin* was after us and we kept out of its way. *Peter Duffy, p. 421.*

During the time I was on St. George Island there never was a raid on the rookeries to my knowledge, and I never heard of any such raid ever having taken place. *Sam'l. Falconer, p. 162.*

I have known of one or two schooners operating in Bering Sea as early as 1877 or 1878, and they were on the rookeries occasionally during the past ten years; but they can not damage the seal herd much by raiding the rookeries, because they can not take many, even were they permitted to land, which they are not by any means. *Jno. Fratis, p. 108.*

Raids on the rookeries by marauders did not, while I was on the island, amount to anything, and certainly seal life there was not affected to any extent by such incursions. I only knew of one raid upon St. Paul Island while I was there. It was by a Japanese vessel, and they killed about 100 seals, the carcasses of which we found on board when we captured the vessel. *H. A. Glidden, p. 111.*

We sailed about January from Victoria, British Columbia, and sailed along the coast until the latter part of June and went into Bering Sea, and sealed as near to St. George Island as we could, and caught about 300 or 400 seals in the sea. Our intention was to make a raid, but were driven away by a revenue cutter. We left the sea about the latter part of July. *Jos. Grymes, p. 434.*

Max. Heilbronner, having been duly sworn, deposes and says: I am secretary of the Alaska Commercial Agency, and as such have in my custody all record books of the company; and among them the daily records or "log book" kept by the agents of the company on St. George Island from 1873 to 1889, inclusive, and on St. Paul Island from 1876 to 1889, inclusive. In these books every occurrence was carefully noted from day to day by the agent in charge at the time. They have been examined under my supervision and show only the following raids on St. George Island during the time covered by them, to wit:

October 23, 1891 [1891].—The carcasses of fifteen dead pup seals and a cargo hook were found on a rookery. It was supposed that the crew

of a schooner seen about the island a few days previous landed in the night.

October 10, 1884.—Fifteen seal carcasses were found on Zapadnie rookery. A guard was stationed, and the following night the crew of a schooner made an unsuccessful attempt to land. The boats were fired on by the guard and retreated.

July 20, 1885.—A party landed under the cliffs in a secluded place and killed about five hundred adult female seals and took the skins away with them. They killed about five hundred pups at the same time, leaving them unskinned.

July 22, 1885.—A party landed at Starrie Arteel rookery and killed and skinned 120 seals, the skins of which they left in their flight, when pursued by the guard. They killed also about 200 pups, which were left unskinned.

November 17, 1888.—A crew landed and killed some seals at Zapadnie; how many is not known, but at this season of the year the number must have been small, because the seals have nearly all migrated.

September 30, 1889.—Eighteen dead seals and four clubs were found on a beach near a rookery. It is not known whether any others were killed.

An examination of the St. Paul record does not show any destructive raids upon the island. It is a fact, however, that in July, 1875, prior to the beginning of the record, the crew of the schooner *San Diego* landed on Otter Island, a small islet 6 miles from St. Paul, and killed and skinned 1,660 seals. She was captured before leaving the island, and both the skins and vessel were condemned to forfeiture by the United States court.

The reports of the superintendent for the lessees show that it was the custom of the company's agents on the islands to frequently patrol the rookeries whenever the weather was such that a landing could be effected on them, and to keep watchmen at points distant from the villages, whose special duty it was to report every unusual or suspicious occurrence. For this purpose the northeast point of St. Paul Island was connected with the village by telephone in 1880, a distance of 12 miles, and the natives instructed in the use of the instrument. If any raids upon the islands, other than those herein mentioned, had occurred, I am sure they would have been detected and reported to this office. No such reports are on file.

H. H. McIntyre, having been duly sworn, deposes and says: I was superintendent of the seal fisheries of Alaska

H. H. McIntyre, p. 30. from 1871 to 1889, inclusive. The records above referred to were kept under my direction by my assistants on the respective islands. I was in frequent correspondence with these assistants when not personally present and am sure that anything worthy of notice would have been promptly reported to me. I believe that these records contain a true account of all destructive raids upon the islands. If there had been any others I should have heard of them. Every unusual occurrence at any point about the islands was noted by the keen-eyed natives and at once reported to the company's office, the matter was investigated, and a record of it entered in the daily journal. I am confident that the only marauding expedition that ever succeeded in killing more than a few dozen seals each were those of 1875, upon Otter Island, and of 1885 upon St. George Island, the details of which are set forth by Mr. Heilbronner in the foregoing affidavit. If there were others of which no record appears,

the number of seals killed was comaratively very small and had no appreciable effect upon seal life.

Sometimes they try to land on the rookeries, but we drive them off with guns and they never get many seals that way. *Nicoli Krukoff, p. 133.*

I do not mean to say that the seals were injured because a few were killed on the rookeries, when men from schooners landed on the islands in the night or when the fog was very thick, for the numbers killed in that way never amounted to much, as it is not often the raiders can land on a rookery and escape with their plunder. *Aggie Kushen, p. 128.*

When on a raid we would watch for a favorable opportunity to make a landing, and then kill male and female fur-seals indiscriminately. Probably for every 500 marketable skins secured, double that number of pups were destroyed. *I. M. Lenard, p. 217.*

While I was on the island there were not more than three or four raids on the rookeries to my knowledge, and I think that the destruction to seal life by raiding rookeries is a small part of 1 per cent as compared with the numbers taken by killing in the water. *A. P. Loud, p. 39.*

It is often difficult to entirely prevent poaching on the islands, although in my judgment it has not been of sufficient importance on the Commander Islands to have any perceptible influence in the diminution of the herd. *Jno. Malowansky, p. 197.*

I remember seeing an occasional sealing schooner in Bering Sea as long ago as 1878, but it was in 1884 they came in large numbers. At first it was supposed they intended to raid the rookeries, and we armed a number of men and kept guard every night, and we drove off any boats we found coming to a rookery. Sometimes in a dense fog or very dark night they landed and killed a few hundred seals, but the numbers taken in this manner are too small to be considered. *A. Melorcedoff, p. 143.*

One cause of destruction is raiding, which has been done upon the shores of the islands. A half dozen such raids are known to me personally; but while it is not possible for me to state with certainty the skins actually secured by such raids, I believe that, although such raiding is detrimental, its injurious effect as compared with the disastrous results of pelagic sealing is insignificant. *T. F. Morgan, p. 65.*

There were only, as I recollect, four raids on the islands while I was there; but little or no damage was done, and seal life was not perceptibly affected by such marauding. *J. H. Moulton, p. 72.*

From my personal knowledge of the number of seals killed upon the Pribilof Islands by raids upon the rookeries during my residence there, and from information gained through other sources, I conclude that the *S. R. Nettleton, p. 76.*

number of fur-seals killed is infinitely small compared with the number killed in pelagic sealing; so small, in fact, as to have no appreciable effect upon seal life upon the islands.

I am told that the diminution of seal life has been attributed to raids by poachers upon the seal islands. Very few of these have occurred, and the number of skins obtained by the poachers has been comparatively infinitesimally small. I think the whole number obtained by them in this way does not exceed 3,000 or 4,000 skins. We were accustomed always to maintain a patrol and guard upon the rookeries whenever the weather was such that poachers could land upon them, and upon the least suspicious circumstances measures were taken to forestall any attempts to steal the seals. The sea is usually rough in the fall when poachers try to get in their work; the shores are, at most places, inaccessible from boats, and the natives are vigilant and active. If marine hunting is stopped, they can be safely trusted to defend the property upon which their very existence is dependent, as they have done repeatedly, against any single schooner's crew.

There were occasional raids made upon the islands [Commander] by poachers during our twenty years' lease, but they were generally unsuccessful in killing any considerable number of seals, and their raids had no appreciable effect upon the rookeries.

During those years the lawless occupation of seal poaching was in its infancy. Marauding vessels, it is true, appeared from time to time in these waters, but the islands were so well guarded that during my term of office there never was a successful raid or landing upon either of the islands of St. Paul or St. George. The only landing upon any island of the group was made in June, 1881, upon the unoccupied island of Otter (not included in the lease), as described in my special report to the Secretary of the Treasury, dated July 4, 1881. On that occasion a predatory schooner succeeded in landing a boat's crew, who killed forty or fifty seals, when they were driven off by a boat sent by me for that purpose from St. Paul, about 6 miles distant.

Until 1884 sealing schooners were seen but very seldom near the islands or in Bering Sea, and the few seals taken by the hunters who raided the rookeries occasionally are too paltry to be seriously considered, because the raids were so few, and the facilities for taking many seals off so utterly insignificant.

There was but one successful raid on the rookeries while I was upon the island, and but 125 seals were killed. I do not consider that raids on the rookeries have anything to do with the decrease of the number of seals.

While I was on the islands there were no raids on the rookeries, and seal life was never depleted at that time by such means.

There was but one raid on the rookeries while I was there, and that took place on Otter Island, about sixty skins being taken. After that raid the Government kept a man on Otter Island during the entire summer to protect it from marauders. Raids on the islands never affected seal life to any extent. *W. B. Taylor, p. 177.*

I do not remember the precise date of the first successful raid upon the rookeries by sealing schooners, but I do know that for the past ten years there have been many such raids attempted, and a few of them successfully carried out, and that as the number of schooners increased around the islands, the attempted raids increased in proportion, and it has been deemed necessary to keep armed guards near the rookeries to repel such attacks. Although a few of the raids were successful, and a few hundred seals killed and carried off, from time to time during the past ten years, the aggregate of all the seals thus destroyed is too small to be mentioned when considering the cause of the sudden decline of seal life on the Pribilof Islands. *Danl. Webster, p. 185.*

MANAGEMENT OF ROOKERIES NOT THE CAUSE.

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In studying the causes of diminution of seal life there were found a variety of actual and possible sources of destruction which are effective in varying degrees. Fortunately the most important of these sources were directly under my observation, and the following facts presented themselves for consideration. *J. Stanley Brown, p. 17.*

The restrictions upon the molestation of the breeding grounds and upon the killing of females has been imperative both on the part of the Government and lessees since the American ownership of the islands, so that in the taking of seals no injury could possibly have occurred to the females and bulls found thereon.

For some years past the natives were permitted to kill in the fall a few thousand male pups for food. Such killing has been prohibited. It is not apparent how the killing of male pups could have decreased the number of females on the breeding grounds.

If the seals were as numerous to-day on the Pribilof Islands and the manner of driving and killing conducted in the same manner as during my experience there, one hundred thousand male seals of from 2 to 4 years of age could be taken from the hauling grounds annually for an indefinite period without diminution of the seal herd. *Chas. Bryant, p. 9.*

Because of the manner of killing seals on the islands, the precautions taken to kill only males of from 2 to 5 years, and the careful limitation of the numbers taken, I am fully convinced that the taking of seals on the Pribilof Islands could never affect the numbers of the seal herd or deplete the rookeries. *S. N. Buynitsky p. 22.*

I was in the employ of the Alaska Commercial Company, the former lessees of the seal islands, and their instructions were to use the utmost care in taking their quota of seals, so that there might be no diminution in number from year to year, and I personally know those instructions were rigidly enforced.

And that if no other agency is at work in destroying seal life 100,000 bachelor seals can be taken from the Pribilof Islands yearly for an indefinite period, provided the rookeries were in the same condition they were in 1871. Of this I am convinced from the fact that the seals continued to increase during all the time I was upon the islands, when 100,000 were killed every year, except one, when 95,000 were taken.

The management of the sealeries upon Copper Island, under Russian occupation, was left wholly to the native chiefs and ignorant laborers of the Russian American Company. The work of killing the seals and curing the skins was done by them in a very unsystematic, careless way; but even then it was understood that, as the seals are polygamous, the surest way to secure an increase of the herd was to kill off surplus males and spare the females, and this was systematically practiced, resulting, as far as I am aware, most satisfactorily. After the expiration of the franchise of the Russian American Company, in 1867 I think it was, and their abandonment of the island and the execution of the lease to Hutchinson, Kohl & Co., in 1871, several different parties visited the island, killed seals injudiciously, and inflicted great injury upon the rookeries. They were restrained to some extent by the natives from indiscriminate slaughter, but I have no doubt they killed more male seals than they ought to have done, and perhaps also some females. Upon my arrival at the island, in 1871, the native chief told me that the seals were not as plentiful as they had been formerly. I announced that we intended to secure 6,000 skins that year. They protested that it was too many, and begged that a smaller number be killed for one year at least. We, however, got the 6,000 skins as proposed, and an almost constantly increasing number in every subsequent year as long as I stayed on the islands, until in 1880 the rookeries had so developed that about 30,000 skins were taken, without in the least injuring them. This is proved by the fact that the increase for the next ten years allowed still larger numbers to be killed, amounting, I think, in one of the years of the second decade of the lease to about 40,000 skins.

In order to secure uniformity in the methods pursued, respectively, upon the Pribilof Group and Commander Islands the respective lessees of the two interests sent Capt. Daniel Webster, an expert sealer of many years' experience in the business, and who was at the time in the service of the Alaska Commercial Company at St. Paul Island, to assist and instruct me through the summer of 1874 in the best manner of handling seal droves, salting skins, and, generally, in the conduct of the business. In working under his direction I found that the methods pursued by the respective parties upon the different sealeries did not differ in any essential feature. The main object in both places was to select good skins for market and spare all female seals and enough vigorous bulls to serve them. When the supply of bulls is more than enough I have no doubt the number of offspring is diminished. The bulls, when overnumerous, fight savagely for the possession of the cow

seals and unintentionally destroy many young in their conflicts. The healthiest condition of a rookery is, no doubt, when, under the laws of polygamous reproduction for this species, the proportion of the sexes is properly balanced.

Following the surrender of occupancy of these islands by the Russian American Company in 1868, the sealeries were left open to all parties and various expeditions visited them unrestricted by any governmental control. Their catches amounted in 1868 to about 15,000; in 1869 to about 20,000, and in 1870 to about 30,000 skins. *Gustave Niebaum, p. 202.*

In 1871 the Russian Government executed the lease to Hutehinson, Kohl & Co., and it was found necessary to restrict the killing for this year to about 6,000 skins, because the rookeries had been largely depleted by the excessive killing, unwise methods, and heedless husbandry. The result of improved methods showed themselves at once, and the rookeries steadily increased in size and number of occupants. We were thus enabled to procure an almost constantly increasing number of skins from year to year during the whole term of our lease. We were unrestricted as to the numbers to be taken, and after the first two years of the lease were urged by the Russian authorities upon the islands to take more than we wanted in view of the condition of the seal-skin market.

I revisited the islands on various occasions subsequent to 1871, and my observations confirmed the fact that we were moving in the right direction to secure an increase of the rookeries. The experience of the whole term of the lease proves conclusively that our policy in conducting the business was a wise one and that our manner of handling, managing, and killing the seals was in every respect what it should have been. This policy was predicated upon the custom of the Russian American Company observed during many years and strengthened by my own actual experience in conducting the business of taking seals upon the Pribilof Islands in 1867-'68 and 1869, and more particularly during the season of 1868, when there was unrestricted sealing done by various parties regardless of the future of the rookeries. The pernicious effects of the methods pursued by them were at once observed, and measures immediately taken by me, aided by the natives, over whom I had complete control, to correct their practices and bring them within the reasonable customs already proved efficacious in preserving the rookeries from annihilation.

If the right proportion is maintained between the sexes, the greatest possible number of progeny is assured. As long as we were able to keep exclusive control, undisturbed by outside influences, we maintained the steady increase of the herd and profitable returns from the industry. When outside parties, beyond our jurisdiction, carried on their destructive work, to any considerable extent, the equilibrium of the sexes was destroyed, any calculation of those in charge of the islands was nullified or miscarried, and the speedy decrease and ultimate destruction of the seals and sealing industry made certain. *H. H. McIntyre, p. 53.*

We protect and take good care of the seals, and if they were not killed in the sea we could make them increase upon the islands so that they would be as many as before. *A. Melovodoff, p. 145.*

We can care for and protect the mature seals as well as the cattle on the ranges are cared for and protected, and if they could be guarded from the hunters in the sea we could by good management again make the rookeries as large as before.

Naturally the cause of this diminution was a matter of interest and inquiry. It was not evident that it was from causes incident to the taking of seals upon the island. The greatest care was exercised in the driving; under precisely similar conditions the herd had increased in former years; the number of skins originally apportioned to St. George Island was reduced at an early date, and only increased in proportion to the rookeries' expansion. No disturbance of the rookeries was permitted, even the presence of dogs and use of firearms being prohibited during the presence of the seals.

The management of the rookeries the first fifteen years of the Alaska Commercial Company's lease resulted in a large increase of seals. The same business management continued, and the same system was pursued to the end of the term, yet in the last five years the rookeries fell off. Clearly it was through no fault of the company, and resulted from some cause beyond their control. I do not think the Alaska Commercial Company made any mistakes in managing the seal herd. They handled them in every respect as I would have done if they had been my own personal property, and as I would do if they were now to come into my hands. If they erred in any particular in their management, it was in their futile attempt in 1888 and 1889 to stop the waste of seal life at the island spigot while it was running out at the bung-hole of pelagic sealing. The record shows that we did not finish the catch as early in 1885 as had been done in former years. I do not think this was from any lack of seals, but was caused by greater care in making our selection of animals to be killed.

I again visited St. Paul Island and remained there several days in the summer of 1885, but saw no evidence then, or when formerly on the island, to lead me to think that the lessees were damaging the rookeries, or doing anything different from what a judicious regard for the future of the industry would dictate.

In giving this evidence I am as free from prejudice as is possible when entertaining, as I do, a feeling that the late lessees treated me in some measure unjustly, nor have I any interest whatever in the seals or the products of the sealeries.

EXCESSIVE KILLING THE ADMITTED CAUSE.

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We find that since the Alaska purchase a marked diminution in the number of seals on and habitually resorting to the Pribilof Islands has taken place; that it has been cumulative in effect, and that it is the result of excessive killing by man.

*Joint report, p. 309 of
The Case.*

PELAGIC SEALING THE SOLE CAUSE.

Opinions.—American Commissioners.

Page 177 of The Case.

Having answered the first of the two queries relating to conditions of seal life at the present time, the second becomes important. It is: Has the decrease in numbers been confined to any particular class of seals, or is it most notable in any class or classes? In answer to this it is our opinion that the diminution in numbers began and continues to be most notable in female seals.

Report of American Commissioners, p. 341 of The Case.

As a matter of fact, there is sufficient evidence to convince us that by far the greater part of the seals taken at sea are females; indeed, we have yet to meet with any evidence to the contrary. The statements of those who have had occasion to examine the catch of pelagic sealers might be quoted to almost any extent to the effect that at least 80 per cent of the seals thus taken are females. On one occasion we examined a pile of skins picked out at random, and which we have every reason to believe was a part of a pelagic catch, and found them nearly all females. When the sealers themselves are not influenced by the feeling that they are testifying against their own interests they give similar testimony. The master of the sealing schooner *J. G. Scan* declared that in the catch of 1890, when he secured several hundred seals, the proportion of females to males was about four to one, and on one occasion in a lot of sixty seals, as a matter of curiosity he counted the number of females with young, finding 47.

Report of American Commissioners, p. 367 of The Case.

The decrease in the number of seals is the result of the evil effects of pelagic sealing.

Report of American Commissioners, p. 379 of The Case.

Opinions.—Dr. Allen.

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13. From the foregoing summary it is evident that the decline in the number of the killable seals at the Pribilof rookeries and the immense decrease in the total number of seals on the Pribilof Islands are not due to any change in the management of the seal herd at the islands, but to the direct and unquestionably deleterious effects of pelagic sealing. At the islands the killing is regulated with reference to the number of killable seals on the rookeries; the designated quota is limited to non-breeding young males, and every seal killed is utilized. The killing, as thus regulated, does not impair the productiveness of the rookeries. In pelagic sealing the slaughter is indiscriminate and unlimited, and a large proportion of the seals killed are lost. The catch also consists almost wholly of breeding females, which at the time of capture are either heavy with young or have young on the rookeries depending upon them for sustenance. Thus two or more seals are destroyed to every one utilized, and nearly all are drawn from the class on which the very existence of the seal herd depends.

Article by Dr. J. A. Allen, p. 410, Vol. I.

Opinions—Experts.

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I have always taken a great interest in the sealing industry, and felt a great desire to have them protected from destruction, and I say, without hesitation, that the great decrease in the number now annually arriving at the seal islands is due entirely to the killing of female seals by pelagic hunters.

From my general knowledge of natural history, from my study of the habits of seals, as well as from the opportunities I have had to acquaint myself with the sources of destruction which are at work, I firmly believe that pelagic sealing would not only account for the diminution of the seal herd, but if continued the seals will inevitably be commercially destroyed.

Jas. Armstrong, p. 2.

I believe there has been a great decrease of seals on the islands since I left there, and this is no doubt due to pelagic hunting.

My people wondered why this was so, and no one could tell why until we learned that hunters in schooners were shooting and destroying them in the sea. Then we knew what the trouble was, for we knew the seals they killed and destroyed must be cows, for most all the males remain on or near the islands until they go away in the fall or forepart of the winter. We also noticed dead pups on the rookeries, that had been starved to death.

If they had not killed the seals in the sea there would be as many on the rookeries as there was ten years ago. There was not more than one-fourth as many seals in 1891 as there was in 1880. We understand the danger there is in the seals being all killed off and that we will have no way of earning our living. There is not one of us but what believes if they had not killed them off by shooting them in the water there would be as many seals on the island now as there was in 1880, and we could go on forever taking 100,000 seals on the two islands; but if they get less as fast as they have in the last five or six years there will be none left in a little while.

Upon examining the Bering Sea catch for 1891, as based upon the records of the Victoria custom-house, I ascertained that nearly 30,000 seals had been taken by the British fleet alone in Bering Sea during the summer of 1891. When there is added to this the catch of the American vessels, the dead pups upon the rookeries, and allowances made for those that are killed and not recovered, we have a catch which will not only nearly reach in numbers the quota of male seals allowed to be taken upon the islands in years gone by, but we have a catch in the securing of which destruction has fallen most heavily upon the producing females. This is borne out by a further fact. The young bachelor seals can lie idly on the hauling grounds and through the peculiarities of their physical economy sustain life with a small supply of food, but the

cows must range the ocean in search of nourishment that they may meet the demands made upon them by their young. That seals go a great distance from the islands I know from personal observation, for we saw them 120 miles to the northward of the island on the way to Nunivak. That the females outnumber the males ten to one is well known, otherwise the hauling ground would present such an array of killable seal that there would be no necessity for the Government to suspend the annual quota. It inevitably follows that the females are the class most preyed upon in Bering Sea. No class of animals which bring forth but a single offspring annually can long sustain itself against the destruction of the producers.

As a result of my investigations I believe that the destruction of females was carried to the point in about 1885 where the birth rate could not keep up the necessary supply of mothers, and that the equilibrium being once destroyed and the drain upon the producing class increasing from year to year from that date, the present depleted condition of the rookeries has resulted directly therefrom.

When we first noticed that the seals on the rookeries were not so many as they used to be we did not know what was wrong, but by and by we found that plenty of schooners came into the sea and shot seals, and we often found bullets and shot in seals when we were skinning them.

And then we found plenty dead pups on the rookeries, more and more every year, until last year (1891) when there were so many the rookeries were covered with them, and when the doctor (Akerly) opened some of them there was no milk or food in their stomachs. Then we all knew the cows had been shot when they went into the sea to feed, and the pups died because they had nothing to eat. Plenty schooners came first about eight or nine years ago, and more and more every year since; and the seals get less and less ever since schooners came; and my people kept saying "no cows," "no cows."

First the cows get less, and then the "bachelors" get less, and the company agent he says "kill smaller seals," and we kill some whose skins weigh only $4\frac{1}{2}$ pounds, instead of 7 pounds, same as they always got. Then we could not get enough of seals, and at last we could hardly get enough for meat.

Schooners kill cows, pups die, and seals are gone.

The cause of this decrease I believe to be due to the promiscuous killing of the seals by hunters in the open sea and the disturbance caused by their presence in destroying the mother seals and scattering the herds.

And I know of no other cause for the decrease than that of the killing of the cows at sea by the pelagic hunters, which I believe must be prohibited if the Alaskan fur-seal is to be saved from total destruction.

In my opinion, pelagic sealing is the cause of redriving on the islands, the depletion of the rookeries, and promises to soon make the Alaska fur-seal herd a thing of the past. If continued as it is to-day, even if killing on the islands was absolutely forbidden, the herd will in a few years be exterminated.

Karp Buterin, p. 103.

Jas. H. Douglass, p. 419.

G. L. Fowler, p. 26.

Chas. J. Goff, p. 113.

During my visits to the islands of St. Paul and St. George for the last twenty years I have carefully noticed that those islands were visited by great herds of fur-seals during the breeding season, and that although 100,000 male seals were taken annually at the islands by the lessees no perceptible diminution in their numbers was noticeable until within the past few years, when the killing of seals in the open sea on the part of fishing vessels became prevalent, since which time there has been a very perceptible diminution in the number of seals seen in the water of the Bering Sea and hauling grounds on the islands. This decrease has become alarmingly sudden in the last three or four years, due I believe to the ruthless and indiscriminate methods of destruction employed by vessels in taking female seals in the open sea.

I made the conditions of seal life a careful study for years, and I am firmly of the opinion their decrease in number on the Pribilof Islands is due wholly and entirely to hunting and killing them in the open sea.

When, in 1886, we all saw the decrease of seals upon the hauling grounds and rookeries, we asked each other what was the cause of it, but when we learned that white men were shooting seals in the water with guns we knew what was the matter; we knew that if they killed seals in the water that they must be nearly all females that were going out to feed, for the males stay on the islands until they get ready to go away in the fall or winter. It was among the cows we first noticed the decrease, and as we never kill the cows on the islands we knew they must be killing them in the water.

There can be no question, in my opinion, about the ultimate result to the rookeries of marine sealing. If it is continued as it has been for the last two or three years the seals will be so nearly wiped out of existence in a short time as to leave nothing to quarrel about; and an article of commerce that has afforded a vast amount of comfort and satisfaction to a large class of wearers and a large income to both American and British merchants will be a thing of the past.

I am convinced that the decrease in the rookeries was caused entirely by open-sea sealing.

That there were no destructive agencies at work upon the island that would not have left the rookeries in better condition 1890 than they were in 1870; that until the effects of the true agent of destruction began to be manifest there was an excess of male life on the islands sufficient to permit of an annual catch of 100,000 seals for an indefinite period without jeopardizing the rookeries; that if it be remembered that the seals taken in the water by hunters are chiefly females, that their young die with them and that all of those killed are not secured, and if then an examination be made of the pelagic skins actually sold during the past twenty years the real source of the depletion of the rookeries will be found; that in my judgment such depletion was caused by pelagic sealing, and that it grew greater from year to year as the number of so-called poaching schooners increased; and that its effects began to

manifest themselves about 1885 or 1886; that the depletion on both hauling and breeding grounds is accounted for by the fact that the catch of said pelagic sealers consists of at least 85 per cent cows; that said cows when taken in the North Pacific are in the majority of cases with pups, and in Bering Sea are so-called milking females; that whenever a milking cow is killed, her pup on the rookeries dies of starvation. In support of this fact last stated, the number of dead pups during the last four years I was upon the islands increased annually; that the effect of the comparatively few raids upon the rookeries themselves, while injurious, bear but a small ratio to the enormous damage done by the pelagic hunting.

That those in charge of said islands did not when said decrease on said rookeries commenced know conclusively the cause thereof; that my opinion then that it was caused by pelagic sealing, but had been informed and believed that the United States Government intended to seize all such poaching vessels; that relying upon such information I authorized the taking of seals as before; that such protection of seal life was not fully carried out in Bering Sea and the North Pacific by reason of England's interference, and that the rookeries were thus depleted.

From statements made by such personal acquaintances and friends I became aware of a rapid decrease in seal life in Alaska, and reports of pelagic sealing, as made *H. W. McIntyre, p. 138.* public through the press, combined with previous personal knowledge of affairs as existing prior to 1882, leaves no possible doubt as to the cause of such decrease of seals. Pelagic sealing as practiced prior to the year 1882 had no apparent effect upon seal life, and even when to this was added the taking of a definite number year after year under lease from the United States Government, there was still a constant increase of seals observed; I am, therefore, fully confirmed in the belief that the decrease in their numbers is due solely to the indiscriminate killing at sea of all ages, regardless of sex, as practiced since 1884.

He further stated that the seals had rapidly decreased since sealing vessels had appeared, but that before the inroads of these seal hunters there was no trouble in obtaining the full quota of the best grades of skins, as the herds had previous to that time been noticeably increasing. *John Malowansky, p. 199.*

Q. To what do you attribute the decrease in the number of seals on the rookeries?—A. To the great number of cows killed by poachers, and consequently less pups are born on the rookeries. *Anton Meloredoff, p. 139.*

Q. How do you know that cows have been killed by poachers?—A. I have handled and seen a great number of skins captured by the revenue cutters from the poaching vessels, and there were very few male skins among them; also have seen among them a great number of unborn pups. Twice upon the rookeries I have seen cows killed and left there by the poachers.

I know of no other explanation than this: The cows are shot and killed when they go into the sea to feed and the pups die on the rookeries. This, I think, is the true solution of the vexed question, "What has become of the seals?" *Anton Meloredoff, p. 144.*

Since 1883, however, there is said to have occurred a very material diminution of the seal life on the Pribilof Islands, due, as it is claimed, to a large and indiscriminate slaughter of these animals in the waters of Bering Sea and the Pacific Ocean. The cause assigned for this loss is undoubtedly the true one. If no other proof were forthcoming in relation to it the large display of dead pups on the rookeries would in itself furnish all the evidence required. Such diminution could not, in my opinion, be the result of the ordinary yearly slaughter for skins. It is shown that an appreciable expansion of the rookeries took place after twelve or fourteen years of such slaughter, and I think this fact conclusively demonstrates that the number of seals which the law permitted to be killed each year was not greater than the known conditions of the seal's life would safely warrant.

From the experience gained and observations made during three killing seasons, from the information gleaned from men who have devoted their lives to the practical side of the seal question, and from the books and reports in the Government offices on the islands, I am able to say that, in my opinion, there is only one great cause of the decrease of the fur seal, and that is the killing of the females by pelagic hunting.

I believe this decrease is owing to the large number of vessels engaged in hunting the fur seal at sea and the indiscriminate methods employed by these sealing vessels in taking skins.

The practice of pelagic seal hunting was followed by the northwest coast Indians from their earliest history, but amounted to so little as to be inappreciable on the islands. Even after white hunters engaged in it in a limited way our losses from this source were attributed to the marine enemies of the seals, and was so far overcome by the good management on the islands as to permit the growth of the herd to continue so long as it was limited to a few vessels and confined to the vicinity of the Oregon, Washington, and British Columbian coasts. But even before any considerable slaughter had taken place in the waters of Bering Sea, as early as 1882, it was noticed that the rookeries had stopped expanding, though they were treated in every way as they always had been. An examination of the London Catalogue of seal-skin sales shows that the "Victoria catch" already aggregated a very considerable number of skins and now brings home the conviction that pelagic sealing, when confined almost wholly to the Pacific, is still a very dangerous enemy of seal life on the islands.

After 1886 the force of pelagic hunters was greatly augmented, and became more and more aggressive, and their field of operations widely extended, until they appeared in alarming numbers in Bering Sea in 1884 and 1885. In 1887 we were forced to commence taking smaller skins in order to obtain our quota and preserve enough breeding bulls. In 1888 they were still smaller, while in 1889 more than half of them were such as we would not have killed in former years, and we called the attention of the Treasury Department to the evident diminution of seal life, and recommended that fewer seals be killed in future. There

can be no question as to the cause of the diminution. It is the direct result of pelagic sealing, and the same destruction, if continued a few years longer, will entirely dissipate any commercial value in the rookeries, if it does not, indeed, annihilate them.

In my opinion the solution of the problem is plain. It is the shotgun and the rifle of the pelagic hunter which are so destructive to the cow seals as they go backwards and forwards to the fishing banks to supply the waste caused by giving nourishment to their young. *L. A. Noyes, p. 84.*

At this time they are destroyed by thousands, and their young of but a few weeks old must necessarily die of starvation, for nature has provided no other means of subsistence for them at this time of life.

Q. How do you account for it?—A. By the numbers, principally females, that are killed in the waters by marauders. *J. C. Redpath, p. 140.*

I saw no diminution of seal life during my three years on the island. The outlines of the rookeries remained just about the same from year to year. I was told at the time that there had formerly been a large increase, and did not then understand why it did not continue, as every condition seemed favorable for it. There were, apparently, an abundance of bulls for service; every cow seemed to have a pup and all were healthy and in good condition. No females were killed, and in the natural order of growth there ought to have been at this time a constantly increasing area covered with breeding rookeries. Yet such was not the case. The explanation of the matter came later when we fairly awoke to the fact that our animals were being slaughtered by tens of thousands in the North Pacific. I knew in a commercial way from our sales catalogue that a very large number of "Victoria skins," as they were called, were being sent to market, and that this number grew constantly larger; but I did not then know, as I now do, that each skin sold represented a waste of two or three and perhaps even four or five seals to obtain it. Nor was any attention given to the now well-known fact that these animals were a part of our herd, as wrongfully stolen from us, I believe, as my cattle would be if driven in and appropriated from the highway when lawfully feeding. *Leon Sloss, p. 91.*

Since my residence on the Pribilof Islands I have kept a very careful watch of the progress of events there, and have interviewed a great many connected with the seal industry. I am of the conviction that the reported decrease in seal life on these islands can be attributed to no other cause save pelagic sealing. While I was located at St. George Island in 1881 pelagic sealing was then and previous to that time had been of very little consequence, having very slight effect upon seal life. Not more than four or five vessels were engaged in pelagic sealing in 1881 in the waters of Bering Sea, and prior to that time a still fewer number were so engaged. But since 1881 this industry has grown yearly until now about a hundred vessels are destroying the seals in great numbers, and, as I am informed and believe, the great majority of those killed are females. Then, too, large numbers are killed in this way which are never recovered nor reported. *W. B. Taylor, p. 177.*

Scarcity of seal can be attributed to no other cause than pelagic hunting and the indiscriminate shooting of seals
Jno. C. Tolman, p. 222. in the open sea, both in the North Pacific and Bering Sea.

I am sure the decrease is caused by the killing of female seals in the open sea, and that if their destruction by the indiscriminate killing in the open sea is permitted to continue it will only be a very short time until the herd will be entirely destroyed.
Chas. T. Wagner, p. 212.

And I have no doubt that it is caused by the killing of female seals in the water, and, if continued, will certainly end in their extermination.
M. L. Washburn, p. 489.

I am convinced that if open-sea sealing had never been indulged in to the extent it has since 1885 or perhaps a year or two earlier, 100,000 male skins could have been taken annually forever from the Pribilof Islands without decreasing the seal herd below its normal size and condition. The cause of the decrease which has taken place can be accounted for only by open-sea sealing; for, until that means of destruction to seal life grew to be of such proportions as to alarm those interested in the seals, the seal herd increased, and since that time the decrease of the number of seals has been proportionate to the increase in the number of those engaged in open-sea sealing.
Dan'l Webster, p. 183.

From 1884 to 1891 I saw their numbers decline, under the same careful management, until in the latter year there was not more than one-fourth of their numbers coming to the islands. In my judgment there is but one cause for that decline and the present condition of the rookeries, and that is the shotgun and rifle of the pelagic hunter, and it is my opinion that if the lesses had not taken a seal on the islands for the last ten years we would still find the breeding grounds in about the same condition as they are to-day, so destructive to seal life are the methods adopted by these hunters.

Deponent, by reason of his experience in the business, his observation, conversations with those physically engaged in catching and curing skins, and the custody of herds on the islands, feels justified in expressing the opinion that the numbers of the seal herds have, since the introduction of the open-sea sealing on a large scale, suffered serious diminution. The killing of large numbers of females heavy with young can not, in deponent's knowledge, but have that effect.
C. A. Williams, p. 538.

Furthermore, I made careful inquiry of the people on the islands, both native and white, and of those who were or had been employed as masters or mates on sealing vessels, and others interested one way or another in the capture of fur-seals for food or for profit, and failed to find any of them but who admitted that the number of seals in the Bering Sea was much less now than a few years since, and nearly all of them gave it as their opinion that the decrease in number was due to pelagic hunting, or, as they more frequently expressed it, the killing of females in the water.
W. H. Williams, p. 93.

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Fur-seals were formerly much more plentiful, however, but of late years are becoming constantly scarcer. This is, we think, owing to the number of vessels engaged in hunting them at sea. *Jno. Alexandroff et al., p. 229.*

Fur-seals were formerly observed in this neighborhood in great numbers, but of late years they have been constantly diminishing, owing to the large number of sealing vessels engaged in killing them. *Nicoli Apokchee et al., p. 224.*

I have noticed that seal have decreased very rapidly in the last three years, owing to too many schooners engaged in sealing along the coast of Alaska and Bering Sea. *Adam Ayonkee, p. 255.*

The seal are not near as plentiful as they used to be. The cause of the decrease is, I think, too many schooners hunting them off Prince of Wales Island and around Dixons Entrance. *Maurice Bates, p. 277.*

Seal are not as plentiful on the coast as they used to be. They have been decreasing very fast the last few years. I think this is caused by the indiscriminate killing in the water. *Wilton C. Bennett, p. 356.*

Seal are getting very scarce. I think the cause of the scarcity is too many people hunting seal. *Edward Benson, p. 277.*

Seals were very plenty in the straits and around the cape until about six years ago, when the white hunters came in schooners and with shotguns and commenced to kill them all off, and now there is none in the straits, and we can not get but one or two where we used to get eight or ten. They are very shy and wild and are decreasing very rapidly. *Bowa-chup, p. 376.*

White hunters came in here about five or six years ago and commenced shooting the seals with guns, since which time they have been rapidly decreasing, and are becoming very wild. When we hunt seals with spears we creep upon them while asleep on the water and spear them. A few years ago my people would catch from eight to ten thousand seals each year; now we get only about one thousand or less. * * *

Seals used to be very numerous along the coast about Cape Flattery, and no decrease was ever noticed in their numbers until soon after the white hunters came around here—about seven years ago—and commenced shooting them. Since that time they have decreased fast and have become very shy. *Peter Brown, p. 378.*

They were formerly much more plentiful than now, which is owing, we believe, to the number of vessels engaged in killing them at sea. *Ivan Canetak et al., p. 229.*

Years ago seals were very plentiful from 5 to 10 miles from the shore. I could see them all around in bunches of from ten to twenty each, but since the white man has commenced to kill them with the rifle and shot-gun (in the last five or six years) they have decreased very rapidly.

Charlie, p. 304.

Fur-seals have decreased very rapidly during the last five years, and we believe it is due to the large number of vessels engaged in hunting them at sea.

Vassili Chichinoff et al., p. 219.

Have noticed the seal are decreasing very fast the last four years; too many schooners are hunting them in the open waters of the Pacific Ocean and Bering Sea.

S. Chin-koo-tin, p. 257.

The last five years fur-seal have been growing very scarce, and it is hard to get any now. There are too many white men with schooners hunting them off Dixon's Entrance, and unless it is stopped the seal will soon be all gone.

William Clark, p. 293.

Seals are now very scarce and wild along the coast. I believe the cause of this is that white hunters have been hunting them so much with guns.

Circus Jim, p. 381.

Seals used to be very plentiful, and I never noticed any decrease in their number until white hunters commenced coming here and killing them with guns, about six or seven years ago. Since that they have decreased very rapidly and have got very shy. Our tribe used to have no difficulty in catching 8,000 to 10,000 seals, and now we can not get a thousand.

Jas. Claplanhoo, p. 382.

I have been out sealing on the coast this spring in a schooner that carried ten canoes, with two hunters to each canoe. We were out three days and caught 5 seals. If we had been out that long six or eight years ago with the same crew, we would have taken between 60 and 100 seals. Seals are wild and shy now, and have become very scarce. I think the reason for this is that they have been hunted so much by white hunters who use firearms.

Jeff. Davis, p. 384.

Some years ago the fur-seal were plenty off the islands, but since the schooners have hunted them they are nearly all gone and it is hard for the Indians of this village to get any.

Eshon, p. 280.

Seals are not so plentiful now as they were a few years ago. They began to decrease about five or six years ago. A good many years ago I used to capture seals in the Straits of San Juan de Fuca, but of late years, since so many schooners and white men have come around here shooting with guns, that only a few come in here and we do not hunt in the straits any more. I used to catch forty or fifty seals in one day, and now if I get six or seven I would have great luck. I have to go a long distance to get seals now. Seals are wild and afraid of an Indian.

Ellabush, p. 385.

They have become so since the white man and the trader began to shoot them with shotguns and rifles. In a short time there will be no seals left for the Indian to kill with the spear.

Fur-seals were formerly much more numerous than of late years, and are each year becoming constantly scarcer. I believe this decrease is due to the number of vessels which are engaged in hunting them at sea. *Vassili Feodor, p. 230.*

And when I was a young man there were lots of seals around Queen Charlotte Islands, but now they have become scarce. The last few times I was out after them I did not see a seal. They have been growing scarcer every year since the white man began hunting them in schooners. *Frank, p. 293.*

Fur-seal are not as plenty as they used to be, and it is hard for the Indians to catch any. I think there are too many white men in schooners hunting seals around Dixon's Entrance. *Chief Frank, p. 280.*

Since the white men have been hunting the seal with schooners they have become very scarce, and it is hard for the Indians to get any in their canoes. *Luke Frank, p. 294.*

Seal have decreased on the coast very fast the last four years. The reason of the decrease is too much hunting and indiscriminate killing. *Chad George, p. 365.*

The seal are becoming very scarce, caused, I think, by the white men hunting them too much. *Chas. Gibson, p. 281.*

Seal are becoming very scarce this last three or four years and Indian hunters can hardly kill them now. Too many schooners are hunting seal, and Indian hunters have to go a long way in their canoes in order to get any, and they seldom kill one. *Gonastut, p. 238.*

Have noticed that seals are decreasing the last four years, caused, I think, by too many white men hunting seal in the waters of the Pacific Ocean and Bering Sea. *Jas. Gondowen, p. 259.*

Fur-seals have decreased in numbers of late years, and we believe it is due principally to the large number of vessels hunting them at sea. *Nicoli Gregoroff et al., p. 234.*

The seal are not nearly as plentiful as they once were, and I think they are hunted too much by schooners. *Henry Haldane, p. 287.*

Seals are not as plentiful now as they were before white men commenced hunting them with guns around here some six or seven years ago. They are more shy now and it is much more difficult for the hunters to creep up and spear them than it was a few years ago. *Alfred Irving, p. 387.*

Years ago we could see seals all over the water. They are not so plentiful now. They have been growing less and less ever since the white man came in and began to hunt them with guns, about six or seven years ago, and so many vessels went into the business.

Ishka, p. 388.

My idea is that there are too many camp-fires around on the coast of Alaska that scares the seal out to sea. The seal smell the smoke and won't come near the land; and there are a large number of people shooting seal, which scares them away also.

Jack Johnson, p. 282.

There are too many schooners hunting seal off Prince of Wales Island, and it is hard for Indians to get any in canoes.

Johnnie Johnston, p. 283.

Have noticed that seal are decreasing very fast the last few years along the coast, caused, I think, by pelagic hunting. * * *

Think the seals are most all killed by the pelagic seal hunters in the waters of the North Pacific Ocean, so far from the land that the Indian hunters have no chance to get any in canoes, as he only goes a short distance from the shore.

Saml. Kahoarof, p. 214.

Do not know why the numbers of the fur seals seen about these islands are now less than in former years.

Philip Kashevaroff, p. 262.

I think the seal are about as plentiful along this coast, but much more scarce farther west. The cause of this scarcity is too much pelagic hunting.

When I was a young man the seal were very plentiful around here, but since the schooners began hunting them they have become very scarce. The white hunter destroyed the sea-otter and will soon destroy the seal. I don't like to see the schooners around here hunting seal, for they kill everything they see, and unless they are stopped the seal will soon be all gone. The sea otter is already gone.

King Kaskwa, p. 295.

Seals have been growing scarce the last five years, since the white man began hunting them with schooners, and if they are not stopped the seal will soon be all gone.

Jim Kasook, p. 296.

Seal have decreased very rapidly along this coast in the last three or four years. The decrease is caused, I think, by schooners using shotguns and rifles and killing mostly female seals.

Mike Kethusduck, p. 262.

Kinkooga, p. 240.

The reason of the scarcity is, I think, that there are too many white hunters sealing in the open waters.

Seal are becoming very scarce on the coast. The reason they are becoming so scarce is that hunters shoot them with guns and kill cows with pup.

O. Klananek, p. 263.

Seal used to be plentiful, but now they are nearly all gone. They are too much hunted by the white men with schooners. *Jas. Kloracket, p. 283.*

Seal have become very scarce the last three years, and what few there are are very wild and hard to get at. I think the reason that seal have become scarce is that they are hunted too much and too many females killed with pup. *Robert Kooko, p. 296.*

Have noticed that seal are decreasing very fast the last few years. I think the cause of the decrease is that there are too many schooners hunting seal in Bering Sea and along the North Pacific coast. *Jno. Kowineet, p. 264.*

Seal are not nearly as plentiful as in former years; have noticed the decrease in the last three or four years. Think the cause of the decrease is the great number of schooners sealing in the North Pacific Ocean and Bering Sea. *Geo. Lacheek, p. 265.*

Seals are not nearly so plentiful now as they used to be. About seven years ago white men commenced to hunt seals in this vicinity with guns, since which time they have been decreasing in numbers and have become wild and hard to catch. * * *

Seals are not so plentiful and are more shy than they used to be, and are more difficult to catch, because they have been hunted so much for the last five or six years with guns.

White hunters, in numbers, commenced to hunt them around Cape Flattery, with guns, about six years ago, and since that that time the seals have decreased very rapidly. *Thos. Lowe, p. 371.*

Since the white man with schooners has been hunting seal they have been growing scarcer every year, and unless they are stopped the seal will soon be all gone. The Indians now have to go a long way and suffer great hardships in order to get any. *Chas. Martin, p. 297.*

After careful inquiry among our oldest people and weighing my own experience and observations, I believe the decrease of the Alaskan fur-seal is due altogether to pelagic hunting. *S. Melovidov, p. 147.*

Since the schooners have commenced to hunt seal they are becoming very scarce and the Indians have to go a long ways to get the few that they do. *Matthew Morris, p. 286.*

Years ago seals were much more plentiful than they are now, and I could see them all around in bunches on the water, but since the white man came here and commenced to kill them with the rifle and the shot-gun, within the last five or six years, they have rapidly decreased in number. *Moses, p. 309.*

When I was a young man seal were very plentiful off Prince of Wales Island and Dixons Entrance, but since the schooners have begun hunting seal they have become very scarce, and Indians now are obliged to go a long ways to kill any, and sometimes they will hunt for days without getting a seal.

Nashou, p. 298.

Since the white men with schooners began to hunt seal, the last five or six years, seals have become very scarce, and it is hard for the Indians to get any now. They have to go a long way and hunt a long time in order to get one or two seals.

Smith Natch, p. 298.

The last four or five years seal have been growing scarcer every year, owing, I think, to too many white men hunting seals in schooners off Queen Charlotte Islands and in Dixous.

Dan Nathlan, p. 286.

I think the reason of the seal becoming so scarce is that there are too many white men hunting seal in the Bering Sea and the Pacific Ocean and it should be stopped.

Nechantake, p. 241.

Seal are not near as plenty as they used to be; too many hunters are catching them and indiscriminately killing them.

Jas. Neishkaitk, p. 287.

When I was a young man seals were much more plentiful than they are now. The last three years, since the schooners began hunting seals, they have become very scarce. It is hard for the Indians to get any now, and this year they have killed but two.

Ntkla-ah, p. 288.

The Indian fur-seal hunters of my people all tell me that the fur-seal are becoming very scarce. Too many white men are killing them all the time, and they kill cows with pup as well as other kinds. I am the chief of my people, and they all tell me what they know.

Peter Olsen, p. 288.

Seal are getting very scarce along the coast, caused by the indiscriminate slaughter of seals in the open waters.

Rondtus, p. 242.

Have noticed the seal are getting scarce the last few years. The cause of the scarcity is, I think, too many schooners hunting them off Prince of Wales Island.

Abel Ryan, p. 299.

Since the schooners have hunted seal off the Prince of Wales Island the seals have become scarce, and it is hard for the Indians to get any in canoes. In former times they used to get plenty.

Jack Shnoky, p. 289.

The disappearance of the fur-seal is due to the killing by pelagic seal-hunters, who appear in large numbers off this part of the coast, and the scarcity of the fur-seals is in proportion to the number of vessels engaged in seal-hunting.

Alexander Shyha, p. 226.

Seal have become very scarce the last few years. Too many white men are engaged in killing seal. *Martin Singay, p. 268.*

Have noticed a large decrease in seal the last three years, caused, I think, by pelagic sealing in Bering Sea and the North Pacific Ocean. *Jack Sitka, p. 269.*

Since the white man has been hunting seal with schooners they have become very scarce, and Indians are obliged to go a long way and stop away from home a long time in order to get any, and after being away there four or five days they frequently return without killing one seal, they have become so scarce. *Thomas Skowl, p. 300.*

There are no seal left now; they are most all killed off. The last ten years the seal have been decreasing very fast, ever since the white men with schooners began to hunt them. *Geo. Skullka, p. 290.*

Seal have been growing scarce along the coast the last four years. Think there are too many schooners engaged in sealing in the North Pacific Ocean and Bering Sea. *M. Thlkahdaynahkee, p. 269.*

Have noticed a large decrease the last four years. I think that pelagic seal hunting in Bering Sea is the cause the seal becoming scarce along the coast. *Charlie Tlaksatan, p. 270.*

Have heard all the Indians of different tribes say that seal are becoming very scarce in the last three or four years. They also say that unless the schooners are stopped from sealing in Bering Sea and the North Pacific Ocean the seal will all be gone, and none will be left for the Indians or anyone else. The seal have become so scarce of late years that I don't know much about them. *Twongkwak, p. 246.*

During the last five or six years seals have decreased in numbers very rapidly. A great many of the white men are poor hunters, and lose a great many of the seals that they shoot. They shoot, and shoot, and shoot, and don't get any seals, and that makes them wild, so that an Indian can't get near them with a spear. *John Tysum, p. 394.*

Have noticed the seal have been decreasing along the coast the last four years. Think the cause of the decrease is that there are too many schooners engaged in pelagic sealing in Bering Sea. *Jas. Unatajim, p. 272.*

Last year was a very bad season. The Indians think scarcity of seals is due to the method of hunting them adopted by the whites, by which the seals are scared away. *Francis Verbeke, p. 311.*

Have noticed the seal are decreasing very fast, particularly the last four years, caused by the indiscriminate killing of seal in the waters of the North Pacific Ocean and Bering Sea. *Charlie Wank, p. 273.*

Watkins, p. 395. So many schooners and white men are hunting them with guns all along the coast that they are getting all killed off.

Formerly the Indians hunted them for food, but nowadays white men and Indians hunt them for their fur, and they are rapidly diminishing in number.
Weckenunesh, p. 311.

Seal were always plenty in the Strait of San Juan de Fuca and along the coast until the white hunter came here and commenced shooting them some six or eight years ago. Since that time they have decreased very rapidly.
Charley White, p. 396.

Billy Williams, p. 301. Seal are becoming very scarce since the white men began hunting them in schooners.

Fred. Wilson, p. 301. Seals have become scarce the last three or four years, and the cause of it is, I think, the indiscriminate killing of seals in the water.

Seals are not near so plentiful as they were seven or eight years ago. I think the cause of this is that they have been hunted so much by white hunters, who use shot-guns and rifles.
Wispool, p. 397.

Have noticed the seal are decreasing very fast, owing to so many schooners hunting seals in the waters of the North Pacific Ocean and Bering Sea.
Michael Wooskott, p. 275.

The seal, like the sea-otter, are becoming very scarce. I think if the schooners were prohibited from taking seal in Bering Sea and along the coast of Alaska, the seal would become plentiful and the Indians could kill them once more in canoes.
Yahkah, p. 246.

Since the white men with schooners began to hunt seal off Prince of Wales Island the seal have become very scarce and unless they are stopped from hunting seal they will soon be all gone. If the white men are permitted to hunt seal much longer the fur-seal will become as scarce as the sea-otter, which were quite plenty around Dixon's Entrance when I was a boy. The Indians are obliged to go a long way for seal now and often return after two or three days' hunt without taking any.
Hastings Yethnow, p. 303.

Seal have been disappearing very rapidly the last few years, and it is hard for our people to get them. There are too many white men hunting them with schooners off Prince of Wales Island.
Paul Young, p. 292.

Walter Young, p. 303. Since the white man began to hunt seal they are becoming very scarce.

Within the last five or six years seals have decreased in number very fast and are becoming very shy, and it is difficult to creep upon them and hit them with the spear. *Hish Yulla, p. 398.*
Years ago, the heads of seals along the coast would stick up out of the water almost as thick as the stars in the heavens, but since the white man, with so many schooners, have come and began to shoot and kill them with the guns they have become very scarce.

If so many white hunters keep hunting the seal with shotguns as they do now, it will be but a short time before they will all be gone. *Thos. Zolnoks, p. 399.*

Opinions.—White sealers.

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I have noticed a perceptible and gradual decrease in seal life for the past few years and attribute it to the large number of vessels engaged in hunting them at sea. *Andrew Anderson, p. 217.*

In the sea seals are much more timid and make off as fast as possible at the approach of a vessel, while formerly they were usually quite curious, and would sport and play about the vessel when come up with. I believe this decrease and timidity is due to the indiscriminate slaughter of the seals by pelagic sealers. *C. H. Anderson, p. 206.*

Q. To what do you attribute that decrease?—
A. I attribute the decrease to the indiscriminate slaughter of the seals. *Geo. Ball, p. 483.*

I believe that the decrease in fur-seal life, which has been constant of late years, is due principally to the number of vessels engaged in hunting them at sea. *J. A. Bradley, p. 227.*

Seven or eight years ago, when seals were hunted almost wholly by Indians with spears, a vessel hunting in the vicinity of Cape Flattery was sure of getting several hundred skins in about three months, from March to the end of May, but at the present time a vessel is doing well if she gets a much smaller number, because the skins bring much higher prices. The records of "catches" in the last three or four years will confirm any person who examines them in the belief that the seals are decreasing in the Pacific Ocean on the American side. I have no reason to doubt that it is the same on the Russian side. At present they are hunted vigorously, and with better methods than formerly. The hunters have had more experience and understand their habits better, but notwithstanding this the catches are decreasing off the coast. *William Brennan, p. 360.*

Seals were not nearly as numerous in 1887 as they were in 1877, and it is my belief that the decrease in numbers is due to the hunting and killing of female seals in the water. *Jas. L. Carthcut, p. 409.*

Have noticed that seal are becoming very scarce on the coast the last few years. The cause of the scarcity of the seal, *Peter Church, p. 257.* I think, is that too many schooners in the North Pacific Ocean and Bering Sea, and the indiscriminate killing of females with pup in the water.

Q. Has there been any decrease in the quantity of seals as compared to the previous years?—A. I think there *Dan'l Claussen, p. 412.* has.

Q. If there is a decrease, to what do you attribute it?—A. To the killing and hunting of them by seal hunters. I think the indiscriminate killing of seals in Bering Sea is the cause of their scarcity along the *Jno. C. Clement, p. 258.* coast.

There were not nearly as many seals to be found in 1889 as there were in 1888. I think the decrease is caused by *Peter Collins, p. 413.* the great destruction of females killed in the sea by the hunters.

Leander Cox, p. 417. I attribute this decrease [of the seal herd] to the terrible slaughter of female seals now going on in the sea.

There can be but one cause for the scarcity of seal, and that is the indiscriminate killing of them in the water, and *Wm. Duncan, p. 279.* unless that is stopped the seal must soon be exterminated. The sea-otter, which were plentiful on this coast at one time, are now scarcely seen at all, and the indiscriminate slaughter of them in the water has almost entirely exterminated the animal. Some few remain in the far north, but they are very hard to secure.

Until hunting and killing was commenced by hunters in the open sea I observed no appreciable decrease in the *M. C. Erskine, p. 422.* number arriving, which was about 1884. In my opinion the chasing of the seals and the shooting of them has a tendency to frighten them and disturb them and prevents their increasing as they would if they were left undisturbed in the waters.

The large decrease of seals in the waters of the ocean and sea must unquestionably be caused by the indiscriminate *M. C. Erskine, p. 423.* killing now going on by poaching schooners, and if not discontinued it will most certainly be a matter of a very few years before the seals will be exterminated.

The seals have most decidedly decreased in number, caused by the continual hunting and killing in the open *F. F. Feeny, p. 220.* sea.

I give them four years more, and if they keep on hunting them as they do now, there will be no more seals left *Geo. Fogel, p. 424.* worth going after. * * *

I attribute the decrease in numbers to their being hunted so much. My experience is that the seal herds in the North Pacific and Bering Sea have been greatly depleted within the last few years by the constant pursuit and killing of them in the water by hunters.

In my opinion, seals and all other fur-bearing animals are decreasing, and the cause is pelagic hunting. *William Foster, p. 220.*

Q. Has there been any decrease in the quantity of seals as compared to previous years?—A. I have not been on the islands in the last few years, but I should imagine there has been a great decrease. *Luther T. Franklin, p. 426.*

Q. To what do you attribute the decrease?—A. To the number of vessels that are up there engaged in killing seals, nearly all of which are females. Last year there were 72 vessels fitted out from Victoria alone, to say nothing of vessels that are fitted out at other places.

The seals are not so numerous off Cape Flattery as they used to be some years ago, and it is my opinion it is owing to the constant hunting by so many schooners. *Thomas Frazer, p. 365.*

Q. Has there been any decrease in the quantity of seals as compared to previous years?—A. There is a decrease of about 20 or 30 per cent less. *Edward W. Funcke, p. 428.*

Q. To what do you attribute that decrease?—A. I attribute it to them being overhunted.

I am decidedly of the opinion that fur-seal life has considerably decreased of late years, and believe it is due principally to pelagic sealing. *A. J. Guild, p. 232.*

While at anchor off St. Paul Island the pups playing about the vessel were very few, and while making a passage between Unalaska and the Pribiloff Islands, during the breeding season, did not see a dozen in the open sea during the whole trip, where formerly I met hundreds. In going from Unalaska to Atka and returning during the last of May and the first part of June of this year (1892), I did not see a single fur-seal in the water. I attribute this great decrease to the indiscriminate slaughter of the species by pelagic sealers, and their wasteful methods of securing skins. *Charles J. Hague, p. 208.*

Q. To what do you attribute this decrease?—A. Too many in the business, I suppose; too many after them. *H. Harmsen, p. 442.*

Q. Would you attribute it to the killing of the females and thereby there are not nearly as many born?—A. Certainly; it has got all to do with it.

Q. Then really the killing of the females you attribute to the decrease?—A. Yes, sir.

I am decidedly of the opinion that the decrease in numbers of seals in the North Pacific and Bering Sea is owing to pelagic hunting, and that unless discontinued they will soon become so nearly extinct as to be worthless for commercial purposes. *J. M. Hays, p. 27.*

I think the seals are not near as plenty as a few years ago, and they are much more shy and harder to catch now than they were when I first went out sealing. I think this is caused by hunting them so much with guns.

Wm. Henson, p. 484.

Q. If there is a decrease, to what do you attribute it?—A. I attribute it to the extermination by inexperienced hunters.

Seals are not as plentiful now as they were a few years ago. I think they are decreasing on account of their being hunted so much.

Wm. Hermann, p. 446.

I have not personally noticed any decrease in the numbers of the fur-seal species, but I think that the constant and indiscriminate slaughter of them must tend largely to that end.

Norman Hodgson, p. 367.

Q. If there is a decrease, to what do you attribute it?—A. To the amount of seal hunters and hunting that is actually going on.

Andrew J. Hoffman, p. 447.

Seals have decreased very fast the last three years. The decrease is caused, I think, by the indiscriminate killing of seals in the water.

E. Hofstad, p. 260.

Gustave Isaacson, p. 440.

Q. To what do you attribute the cause?—A. Killing off the females; whale-killers and sharks kill a good many.

Frank Johnson, p. 441.

Q. To what do you attribute the cause of this decrease?—A. The increase of the fleet and killing of all the females.

My knowledge being from long experience, is that the seals are becoming gradually scarcer in the northern waters, particularly so in later years. The cause of this decrease I believe to be the indiscriminate slaughter of the mother seals. They are hunted too much, and hence mother seals are becoming scarcer, which, if not checked, will lead to their early extermination.

Jas. Kiernan, p. 450.

He also told me, from his own knowledge, that the Uchuckelset Indians had a few years ago caught off the coast 1,600 seals in a season, and that now they could catch hardly any; that the white men's guns were not only destroying the seals, but driving them further from the coast.

Francis R. King-Hall, p. 332.

In my opinion, fur-seal life has not only enormously decreased in numbers since 1886, but it has become greatly scattered, and grown wilder and more timid, forsaking many places where they were formerly to be found at certain seasons of the year engaged in feeding. This I attribute to the large number of vessels engaged in killing fur-seals indiscriminately at sea.

Jas. E. Lennan, p. 370.

If they keep on hunting them in the Bering Sea and the North Pacific in the same way they have done in the last few years, they will exterminate them in the same way, because most all the seals killed are females. The young ones will all die, and every female seal you shoot makes the killing of two, because after the seal has given birth to her young the pup will starve to death on the land, or when you shoot them in the water they may have a pup inside.

Caleb Lindahl, p. 456.

I have observed a very great decrease in fur-seal life since 1885, and believe it is almost entirely due to the large number of vessels engaged in pelagic hunting.

E. W. Littlejohn, p. 457.

The seals are much less plentiful the last year I sealed than the first. I attribute this decrease to the hunting of them in the water, and the increased number of boats and men engaged in the business in the last few years.

Wm. H. Long, p. 458.

Q. Has there been any decrease in the quantity of seals as compared to previous years?—A. There has been a decrease.

Q. To what do you attribute the decrease?—A. To the hunting of the seals in the Bering Sea.

Chas. Lutjens, p. 459.

There can be but one reason for the decrease, and that is they are hunted too much in the open waters.

J. D. McDonald, p. 266.

There were not as many seals in 1890 as there were in 1889. I think there are so many boats and hunters out after them that they are being killed off. They are hunted too much.

Wm. McIsaac, p. 461.

Seals are not as plentiful on the coast as formerly. Have noticed the decrease in the last three years; caused, I think, by the indiscriminate killing of female seal.

Jas. McKeen, p. 267.

I was also cod fishing in 1884. There were a great many more seals in the water then than there was in 1889. In 1884, when we were cod fishing, we met the steam whaler *Thrasher*, and I heard the captain remark that it was a damned shame the way they were killing the female seals in the Bering Sea.

Wm. McLaughlin, p. 462.

Q. To what do you attribute this decrease?—A. I think this is on account of killing those female seals when they have pups, and the business is getting so that so many vessels are going into it, and they are killing those pups off. A seal has not got a chance to go to work and increase.

Alexander McLean, p. 437.

Q. The mother seals?—A. Yes, sir.

Q. Have you noticed any decrease in the quantity of animals in the last few years?—A. Yes, sir.

Q. To what do you attribute the cause?—A. Killing off the females.

Danl. McLean, p. 444.

I have given up the sealing business because the slaughtering of the female seals is making them so scarce that it does not pay.

Jas. Maloy, p. 463.

I think seals are not as plentiful as they used to be, caused, I think, by the indiscriminate killing of females with pup.

G. E. Miner, p. 466.

Q. To what do you attribute that decrease?—
A. From the killing of seals, both by hunters and others.

Frank Morreau, p. 468.

Deponent further says that he thinks that the decrease in the number of seals found in the rookeries and the increase in the number of dead pups are caused directly by the open-sea sealing commonly called poaching.

T. F. Morgan, p. 65.

I am not able to say whether the seal herd is decreasing, but it is reasonable to suppose that where they are hunted and harassed at all times by so many hunters they are sure to be driven from their usual haunts, if not totally destroyed.

Nelson T. Oliver, p. 372.

Seals were not as plentiful in 1886 as they were in 1885. I think the principal cause of that decrease is on account of killing the females in the water, and also through their getting shy by being chased by the boats.

Niles Nelson, p. 470.

Since the use of rifles and shotguns has become common, seals are much less in numbers and are more shy and timid.

Wm. Parker, p. 345.

Seals are not near as plentiful as when I went out in 1888, and I believe the decrease is due to their being hunted so much with shotguns and rifles.

Edwin P. Porter, p. 347.

I know that the seals are rapidly decreasing, and I believe it is caused by killing females in the water.

Adolphus Sayers, p. 473.

I took very great interest in the seals, because I used to hunt them myself, and I noticed a great decrease in the number of seals from what there was formerly, when I was on sealing voyages. It was, in fact, so marked that I called the captain's attention to it, saying that we had seen very few seals. They have been getting scarcer every year since I have been going to Bering Sea, and if something is not done right away to protect them there will be no more seals in these waters. I know as a fact that they are killing them indiscriminately, and all the hunters care about it is to get a skin. I know something about it, as I have been sailing from this coast up along those waters for nineteen years, and, as I said before, I paid particular attention to them, and I firmly believe, if they allow the killing in the sea to go on as they are now doing, it will only be a question of a few years before there will not be enough to pay any one to hunt them.

Jas. Sloan, p. 477.

I think the seals are decreasing in number all the time, because there are more vessels out hunting after them and are killing off the female seals. *Cyrus Stephens, p. 480.*

Q. If there is a decrease, to what do you attribute it?—A. On account of so much extermination and hunting by the seal-hunters. *Gustave Sundvall, p. 481.*

I have heard that seal have been decreasing the last few years, caused, I think, by pelagic sealing. *W. Thomas, p. 485.*

The decrease, I think, is caused by the indiscriminate killing of female seals. *Rudolph Walson, p. 272.*

From what I know seals have been decreasing very fast in recent years. Think the decrease is caused by the indiscriminate killing in the North Pacific Ocean and Bering Sea. *P. S. Weittenheller, p. 274.*

My experience is that the seals have been decreasing in numbers for the last six or seven years, and within the past two or three years very rapidly, owing to the indiscriminate killing of them by pelagic hunters and vessels engaged in that business in the waters of the North Pacific and Bering Sea. *Michael White, p. 490.*

INCREASE OF SEALING FLEET.

Page 183 of The Case.

Pelagic sealing as an industry is of recent origin and may be said to date from 1879. In 1880, according to the official report of the Canadian Minister of Marine and Fisheries, 7 vessels and 213 men were engaged in pelagic sealing in the North Pacific, securing 13,600 skins, valued at \$163,200. The same authority states that in 1886 20 vessels and 459 men secured 38,907 skins, valued at \$389,070. In 1891 the number of United States and Canadian vessels had increased to over 100; upwards of 2,000 men were engaged, and more than 62,000 skins were secured. *Report of American Commissioners, p. 371 of The Case.*

The number of seal-skins actually recorded as sold as a result of pelagic sealing is shown in the following table: *Report of American Commissioners, p. 366 of The Case.*

Year.	No. of skins.	Year.	No. of skins.	Year.	No. of skins.
1872	1,029	1879	12,500+	1886	38,907
1873		1880	13,600	1887	33,800
1874	4,949	1881	13,541	1888	37,789
1875	1,646	1882	17,700	1889	40,998
1876	2,012	1883	9,195	1890	48,519
1877	5,700	1884	*14,000	1891	62,500
1878	9,593	1885	13,000		

* Number estimated from value given.

That one reason for deponent's opinion that the total number of seals in the Pacific and Bering Sea has diminished very rapidly is the fact—which deponent knows from the fact that he buys so large a portion of the poachers' catch—that there are now engaged on what is called "poaching" about eighty vessels, and that about five years ago not more than ten vessels were engaged in poaching; and that the total number of skins brought in by the whole eighty vessels is now not very much greater than the number brought in five years by ten vessels. The poaching vessels a few years ago have been known to get as many as 3,000 or 4,000 skins, and deponent has bought 4,000 skins from one vessel, whereas no poaching vessel now gets more than a few hundred with the same size crew. One vessel last year sailing from Victoria made a catch of 1,900 skins, but this is now an altogether exceptional catch, and this vessel had a crew twice as large as poaching vessels formerly carried, and was equipped with from twelve to fifteen boats instead of five or six. One or two other poaching vessels also made large catches—that is, over 1,200 skins—but the average catch of the poaching vessels is not more than a few hundred each. This is true, although the poaching vessels are now equipped with much more experienced shooters, with better rifles, and with better boats than any of the vessels had five years ago. Many of the poaching vessels now have boats pointed at both ends, so that they can go backward or forward with equal ease; and the old poacher only had ordinary ships' boats. Deponent knows this to be true, because he has seen the boats and talked with the captains of the schooners about them.

I never saw many sealing schooners before 1884, but they have been coming more and more every year since, and I notice that as the schooners multiply in the sea the seals decrease on the rookeries.

From 1885 to the present time the fleet of predatory vessels has constantly increased in proportion as the seal herd has decreased. * * *

A very noticeable decrease in the herd commenced, as I have already pointed out, in 1886, and was coincident in time and proportionate in extent with the number of seals destroyed in the water. The business of pelagic sealing in Bering Sea first assumed considerable proportions in 1884, and in that year dead pup seals first became numerous enough upon the rookeries to excite remark upon the islands. As the sealing fleet increased the starved animals became more numerous. In 1887 fourteen vessels were seized for illegal sealing, and the effect was seen in the following year when a much less number engaged in the business and the Bering Sea catch amounted, as I am informed, to about 34,000 skins against about 19,000 or 20,000 in 1888. The failure of the United States Government to vigorously pursue in 1888 and the following years the repressive policy so auspiciously begun in 1887, led to a large increase of the sealing fleet and corresponding destruction of the herd, but the prohibition of pelagic sealing nevertheless continued, and the usual proclamation was published by the Government warning all parties not to kill seals in Bering Sea or waters adjacent to the Alaskan coast.

Up to 1883 and 1884 it was only an occasional venturesome vessel that came around and secured a few hundred skins and thought itself lucky and cleared out, but since that time not even the smallest craft is satisfied unless it secures its thousands of pelts regardless of sex. *W. S. Hereford, p. 36.*

While in Bering Sea during the summer of 1869, I never saw a vessel sealing about the islands or anywhere in the sea, nor did I hear any report of the presence of such sealing vessels in those waters. *J. A. Henriques, p. 31.*

I do not know of any sealing schooner that went to the Bering Sea until Capt. McLean went there about nine years ago in the *Favorite*. *Wm. Parker, p. 344.*

Q. What effect, in your opinion, does the increase in the number of poaching vessels in Bering Sea have upon seal life?—A. Since the number of sealing vessels has increased, the number of seals coming to the islands has correspondingly decreased. * * *

J. C. Redpath, p. 141.

In 1884 the sealing schooners became numerous. I believe there were about thirty in the sea that year, and they have increased very rapidly every year since, until now they are said to be about one hundred and twenty.

I first went out in 1885 in the schooner *City of San Diego*, chartered by myself and others, and my catch for that year was between 2,300 and 2,400 seals. Of that number about 1,900 were caught in the Bering Sea. There were but very few vessels sealing at that time. *Michael White, p. 489.*

PELAGIC SEALING.

HISTORY.

SEALING BY COAST INDIANS.

Page 187 of The Case.

Formerly, in the winter time, used to hunt them in the Straits of San Juan de Fuca, and in the spring and summer time we hunted them in canoes and with spears from 10 to 30 miles off and around Cape Flattery. *Peter Brown, p. 377.*

About ten or twelve years ago we commenced carrying our canoes on little schooners and followed up along the coast towards Kadiak. I have been a part owner in a schooner for about seven years, and have owned the *James G. Scan* for about three years. She is about 59 tons burden. The other schooner was not so large. * * *

In early times none of my tribe ever went any farther out to sea than from 10 to 30 miles off Cape Flattery, and close inshore a few miles up and down the coast. They had no other way of hunting, except to go from here in canoes. About fifteen years ago the post trader induced some of them to put their canoes on board of a small schooner and go out from 50 to 75 miles offshore, and to hunt along the coast from Columbia River to Barclay Sound. In the last five or six years some of my tribe have bought and now own four little schooners, and use them to carry their canoes and provisions when they go any distance from home. About seventeen of my people have been in the Bering Sea, and, with the possible exception of two or three, none of them were ever there before 1887.

In 1887 the British schooner *Alfred Adams*, from Victoria, British Columbia, came here and employed some of my tribe to go to the Bering Sea hunting seals, and the schooner *Lottie*, owned by the Indians, also went from here in that year.

In 1889 and 1891 some of my people went on schooners, as hunters, to Bering Sea. At no other times have any of them been in those waters.

I have been engaged in hunting seals all my life, and have always used the spear, and went in canoes. Formerly we went around the cape in canoes, but for the last fifteen years I have frequently gone out on small schooners, from 10 to 80 miles around the cape, up and down the coast from 100 to 200 miles. We take our canoes on the vessel and use them after we get to the sealing grounds. *Landes Callapa, p. 379.*

In early times, and until within the last ten years, I hunted seals with spears in canoes. During the last ten years
Circus Jim, p. 380. I have been sealing up and down the coast in schooners, but used spears all of the time. When we used canoes exclusively I used to hunt and capture seals about 30 miles in the Straits of San Juan de Fuca. * * *

I used to be out on the water hunting seals in a canoe for a couple of days at a time, if the weather was fine. Three Indians would go in one canoe. One would handle the spear, the other two would paddle and steer the boat. I was the spearman. Usually we found several seals at a time asleep on the water and would creep upon them, sometimes as near as 20 feet, but more frequently not closer than 40 to 50 feet. I would then throw the spear at them and almost always secure all that I hit. Very rarely I would hit and secure two seals at a time. I would then get a seal on each barb of the spear.

We use smaller canoes now since we began to use schooners in which to carry our canoes and hunters to the sealing waters, and but two Indians go in one of these smaller canoes.

In my early years I hunted seals in canoes and with spears in the Straits of San Juan de Fuca, and about 80 miles
Jas. Claplanhoo, p. 381. off Cape Flattery. I killed seals for food and for their skins, getting about \$3 apiece for each skin. About fifteen years ago Willie Gallick, who had a trading post here, had three or four schooners, and employed Indians to go sealing and sail his vessels. They would put their canoes and spears on board the schooners and go out and hunt about 20 or 30 miles off the coast, as far south as the Columbia River and north to Barclay Sound. A few years later some of the Indians owned, or partly, an interest in the schooners. About six years ago the British schooner *Alfred Adams* came here, and her master engaged Indian hunters to go sealing in the Bering Sea.

Also used to hunt seals in canoes up and down the coast from Cape Flattery. In those days there were a great many
Jeff Davis, p. 384. seals along the coast. They traveled in little herds of from ten to fifteen each, and we could sometimes creep up on them when they were asleep on the water and spear one or two before they got away. We usually secured all that we hit with the spear. About 10 or 12 years ago we began to hunt seals in schooners, and ventured farther out in the ocean and sealed for greater distances up and down the coast. I have sealed as far south as the Columbia River and as far up the coast as the north end of Vancouver Island.

I commenced sealing in canoes along the coast and in the Straits of San Juan de Fuca, about fifteen years ago, and
Ellabush, p. 385. have always hunted seals with spears until recently. Three Indians usually go with each canoe. About ten years ago I went hunting in the schooner *Mist*, owned by a white man. We cruised for seals along the coast, between the Columbia River and Barclay Sound.

Formerly my tribe hunted in canoes and used spears exclusively, but in the last two years a few of them have used shot-guns. Previous to about ten years ago we seldom went more than 20 miles out to sea and sealed
Alfred Irving, p. 386.

about that distance off Cape Flattery. Since that time some of our tribe have owned three or four small schooners, and those that go out in them put their canoes and spears on the schooners and are carried from 50 to 75 miles off Cape Flattery and along the coast from Columbia River to Barclay Sound. In the earlier years when I went hunting we would not go out of the Straits of San Juan de Fuca during the winter months and early in the spring.

In former years we used to hunt in the Straits of San Juan de Fuca, and in the summer around Cape Flattery, but for the last few years we have had to go farther to get them, and now we hunt from Columbia River to Barclay Sound. We put our canoes and spears on board of a schooner, and go out from 10 to 60 miles off Cape Flattery. *Selwisch Johnson, p. 388.*

The idea of capturing seals in the water, when they are farther off shore than the Indian canoes can safely follow them, originated in San Francisco. A single schooner was fitted out and met with success. She was afterwards joined by others, and finally by a small fleet, nearly all American vessels. *Isaac Lilbes, p. 453.*

I have always hunted seals with the spear, and have never used the gun or been in Bering Sea. I have always sealed in the Strait of San Juan de Fuca, and around Cape Flattery, and up and down the coast of Barclay Sound to the Columbia River. I commenced going north to Barclay Sound about ten years ago. *Jas. Lightholse, p. 389.*

I arrived in Sitka in November, 1868; remained there a few days and went thence to Victoria, British Columbia, touching at all principal points between Sitka and Victoria, spending the entire winter of 1868 and 1869 among the Indians and fur traders, learning their traditions and customs, and noting their catches of furs and manner of doing business. It came to my knowledge at that time that a considerable number of fur-seals were being killed by the Indians, mostly by the use of spears, in the waters adjacent to Vancouvers and Queen Charlottes islands. The total catch obtained in this way amounted at this time, as I was told by the late United States consul, Francis, to 3,000 to 5,000 skins per annum. The consul further said that the catch was chiefly females, many of which were pregnant. The Indians hunted from dugout canoes, and could not go far from land. *H. H. McIntyre, p. 47.*

I have been engaged at seal hunting along the coast for the last ten years. At first I hunted in large canoes, but soon commenced to go hunting in schooners. *Osly, p. 290.*

Indians were the principal hunters until about six years ago, and they scarcely ever used anything but spears and would save most all the seals they killed * * * *Wm. Parker, p. 344.*

There was hardly ever a sealing schooner that went to Bering Sea during these years or prior to 1885, and there were only four or five that sailed from here in the sealing business, and these carried Indian crews, who hunted with spears and seldom went far from the coast. * * *

Seals were almost exclusively taken on the coast during these years and by Indian hunters, armed by spears.

Up to nearly the time my work was published, little was known about marine seal fishing. It was mostly confined to the *C. M. Scammon*, p. 475. Indians. A few vessels were engaged in the trade from Victoria, but cut no figure in commerce. The price of skins was comparatively low, and no great inducements were offered to go into the business. It was when prices advanced, and white hunters acquired the skill of following the movements of the seals and in shooting from a boat, that the real danger of the extermination of the species became apparent. The records of the Pribilof Islands show that not many seals were left on the rookeries about 1840 to 1845, and very few then appeared in the vicinity of the British Columbia coast. As those rookeries increased so the "Victoria catch" increased, and amounted to about 5,000 skins in 1869. (*Marine Mammals*, p. 154.)

Previous to ten years ago I always hunted seals with a spear in a large canoe, and from 20 to 30 miles around Cape Flattery and from 60 to 100 miles up and down the coast. Each canoe carried 3 Indians, and I was the spearman, and generally secured about all of the seals that I hit, but would sometimes miss them and they would swim away. In hunting with schooners during the last ten or twelve years we would take ten or fifteen smaller canoes on board and go up and down the coast from the mouth of the Columbia River to the upper end of Vancouver Island. We send but 2 men out in the small canoe. I have always used the spear in hunting the seals and none of the hunters that went with me ever used the gun. We do not like to use guns because it scares the seals away.

VESSELS USED.

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(See also "Sealing by Coast Indians.")

About five or six years ago I commenced to hunt in smaller canoes that were taken out to sea in schooners. I hunted with spears all of the time.

Bow-chup, p. 376.

About ten years ago the first British schooner came into Paehenah Bay to get Indian hunters, and have been coming in there ever since, increasing in numbers year by year, till now there are nearly one hundred sealing schooners on the coast hunting seals.

Charlie, p. 304.

My tribe used to hunt exclusively in canoes, and did not go many miles from the cape, but in the last ten or twelve years a good many of the hunters put their canoes on the small schooners, owned by some of us, and we go farther out into the sea, and from the Columbia River to Barclay Sound, to hunt seals. Unless we use guns we will have to stop hunting them, for they are getting so wild we can not catch many.

Jas. Lighthouse, p. 390.

The sealing industry, as regards British Columbia, started in about 1872; at that time Indians only were employed to do the killing, which was done by spearing. The fleet was small, not numbering over half a dozen vessels, and the trade was in the hands of three or four men. In 1883

Morris Moss, p. 341.

the American schooner *San Diego*, of San Francisco, entered the Bering Sea, and after taking about 2,200 seal-skins brought them to Victoria and sold them. This gave impetus to the trade and the following year Victoria schooners entered the sea. New vessels were subsequently added to the fleet and other firms embarked in the business. In 1886 three Victoria vessels were seized, since which time there has been trouble over the Bering Sea sealing industry. Since that time the fleet has been gradually increasing until now. Previous to this time (1886) but few white hunters were employed and the Indian hunters used spears only. By so doing they secured all the seals struck, and did not scare the balance; of late years, however, all the Indians carry and use shotguns in addition to their spears. About fifty-six schooners have cleared from Victoria this spring. Thirty of them carry white hunters and the balance Indians.

Ten years ago a British schooner came up to Paehenah Bay to get Indian hunters, and schooners have been coming in there for that purpose every season since, increasing in number year by year until now there are nearly one hundred sealing schooners engaged in hunting seals along the coast. *Moses, p. 309.*

During the last eight or ten years I have been hunting seals in smaller canoes and were taken farther out to sea by schooners that would carry ten or fifteen small canoes, each canoe manned by two Indians. *Wilson Parker, p. 392.*

Previous to 1885 only two or three sealing vessels had ever gone to the Bering Sea to hunt seals, and the sealing from Victoria prior to 1886 was confined to the coast, and the crews were Indians who hunted with spears. *Chas. Peterson, p. 346.*

In 1889 I entered the Bering Sea in the schooner *James G. Swan*. I was never there before, nor have I been there since. About two years ago I began to hunt seals with the shotgun, but I have always carried a spear in my canoe, and frequently use it. I have sailed up and down the coast in canoes between Destruction Island and the north end of Vancouver Island. In latter years I have gone seal-hunting in schooners that carried Indian canoes. Generally each canoe is manned by three Indians, one of which carries a spear. When a seal or a school of seals are sighted the canoe is lowered and the Indians go toward the seal and try to capture them, and at night we return to the schooner with our catch. The seals are placed on board the schooner and skinned; sometimes the carcasses are thrown into the sea, and sometimes they are saved for food. *John Tysum, p. 393.*

Years ago we went out in the ocean in canoes, but in later years we take our canoes out on the ocean in schooners and then hunt seals from the schooners. Have never been any farther north than Barclay Sound. *Charley White, p. 395.*

About ten years ago I commenced hunting seals from schooners, using smaller canoes than I formerly did, and have always used spears in hunting seals. About seven or eight years ago schooners came in with white *Wispool, p. 396.*

men who used shotguns, and have gradually increased in number and size of vessels, until now there are nearly one hundred sealing schooners engaged in sealing along the coast.

Years ago I used to hunt seals in the Straits of San Juan de Fuca in the winter time, and in the summer time I would hunt them in canoes from 10 to 20 miles off Cape Flattery, and of late years I hunt in a small canoe, and put it on a schooner and go up and down the coast between the mouth of the Columbia River and Borelay Sound. I have always used spears in hunting the seals.

Hish Yulla, p. 397.

Until about 1880 I hunted seals in large canoes, in which I always used the spear. In the last eight or ten years I have hunted for seals in small canoes carried on schooners, and sailed off Cape Flattery from 20 to 75 miles, and as far south as the Columbia River and north up to the passage into Bering Sea, but have never hunted for seals in those waters.

Thos. Zolnoks, p. 398.

INTRODUCTION OF FIREARMS.

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My people commenced using guns in seal-hunting about three years ago, but they always carried spears, and but few of them ever use guns unless employed to do so by white men.

Peter Brown, p. 377.

About seven years ago they commenced to kill seals with rifles and a little later they used shotguns, but I have always hunted with the spear; but very few Indians that go from Pachena Bay or from Neah Bay use guns; we prefer the spear, because we are afraid that if we use guns they will get frightened away and not come back again, and also because we lose a great many of the seals that we shoot; but with the spear we make no noise and get almost all that we hit. There are about 100 seal-hunters that live at Pachena Bay and make their living by hunting seals.

Charlie, p. 304.

Until three or four years ago I used nothing but spears in hunting seals; now I sometimes use a gun.

James Claplanhoo, p. 381.

The first six years I employed Indian hunters from Cape Flattery and they used spears exclusively, as the opinion then was that the sound of firearms would tend to drive off the seals as well as waking the sleeping ones, thus making it more difficult to secure them.

James Dalgarduo, p. 364.

During two of the eight years I employed mixed crews, some Indians and some whites; some using rifles and some using spears. The catch was in round numbers from 1,500 to 3,000 skins per year, these figures representing the lowest and the highest numbers ever taken by me in any one year.

If all the seals were taken as they were by the Indians in former years, by spearing, their destruction would be nothing near as great as it is. If the spear dart touches the animal but lightly he goes off with a slight wound and quickly recovers, while if it fairly penetrates his body his capture is reasonably certain, for the spear is attached by a line to the canoe and the seal can not escape. Unfortunately, a great majority of the seals are now killed with guns instead of spears. *Isaac Liebes, p. 453.*

About seven years ago they commenced to hunt seals with rifles, and lately they use shotguns. Very few Indians that go from Pachenah Bay or Neah Bay use guns. *Moses, p. 309.*

METHOD.

VESSELS, OUTFIT, ETC.

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The following statements here made in relation to open-sea sealing are based upon my own observation, and also upon information I received from conversations with forty or fifty men engaged in open-sea sealing in Bering Sea. The average size of the sealing vessels is from 25 to 50 tons, and the number of the crew varies from 10 to 20 or 25. A vessel is fitted out with about 4 to 6 boats, or 6 or 8 canoes. The white hunters used either a Winchester rifle or a double-barreled shotgun, and a gaff with a shaft 4 or 5 feet long. The Indians use a toggle-headed spear, with a shaft 7 or 8 feet in length. Each boat has a rower and one or two hunters, and is also provided with a compass, small amount of provisions, ammunition locker, seal knives and a short club. The boats, on being lowered from the vessel, provided the water is fairly smooth, go toward all points of the compass, and I have found them as far as 6 miles from the schooner. *C. A. Abbey, p. 186.*

In hunting seals the white men use an otter boat manned by three men—the hunter, boat-puller, and steerer. The favorite weapon is the shotgun, and rifles are but little used. The No. 10 Parker gun is preferred, and the usual charge is 5 drams of powder and twenty-one No. 2 buck-shot. *A. B. Alexander, p. 355.*

I first sailed in 1891 in the vessel *N. E. Paint*, Bisit, master; had six boats, with three men to each boat. The hunters used shotguns. * * * *H. Andricius, p. 314.*

On January 27, 1892, I went seal-hunting again as boat-puller on the *Labadore*, Whitly, master. She carried three boats, three men to each boat, all white men.

I furnished my vessels with rifles and shotguns, and each vessel carried from three to seven boats, with three men to the boat, a hunter, boat-puller, and steerer. *Wm. Bendt, p. 404.*

In 1887 I shipped on the schooner *Challenge*, Jones, master, as boat-puller. She carried four boats, and three men to each boat, all white men, who used shotguns in hunting the seals. * * *

Bernhardt Bleidner, p. 315.

In January, 1889, I again shipped from Victoria, British Columbia, in the schooner *Walter Rich*, Siewart, master; we carried six boats and one stern boat, three men to each boat, all white men, who used rifles and shotguns.

I went sealing as deck hand in the British schooner *Kate*, Capt. Moss, master, in 1887. We had twenty canoes and Indian hunters who used spears, except in calm weather, when they would use shotguns. * * *

Neils Bonde, p. 315.

In 1888 I left Victoria on the 11th of April as mate and interpreter on the British schooner *Arannah*, H. F. Siewart, master, and carried sixteen canoes while sealing on the coast and Indian hunters with spears, but in calm weather they use shotguns. * * *

I left Victoria on the 28th of May, 1889, in the British schooner *Kate*, as deck hand, with ten canoes and Indian hunters with spears and shotguns. The Indians used spears chiefly. * * *

In 1890 I left Victoria on the 17th of January in the British schooner *Pioneer*, Morgan, master. I shipped as a deck hand. We had five boats and white hunters, who used shotguns and rifles.

We had six boats, four men to a boat, two boat-pullers, and a steerer and hunter. We killed them with rifles.

Thos. Bradley, p. 406.

On or about February 21, 1890, I shipped as an able seaman, but did service as a boat-steerer on the sealing schooner *Minnie*, which cleared from Victoria. She carried twelve canoes and a stern boat. Each canoe was manned by two Indians, who used spears principally. The stern boat was manned by white men, who used rifles and shotguns, principally shotguns. I acted as steererman in the stern boat. * * *

Henry Brown, p. 317.

On January 19, 1891, I shipped at Victoria as an able seaman on the sealing schooner *Mascot*, Lawrence, master. She carried one stern boat and ten canoes. The canoes were manned by Indians, who used spears in hunting the seals, and the stern boat, in which I was steerer, was manned by three white men. The hunter used a shotgun. * * *

On the 25th of February, 1892, I shipped at Victoria, British Columbia, on the sealing schooner *May Belle*, Smith, master. She also carried ten canoes, each being manned by two Indians, who used the spear in hunting.

I went sealing in 1889 from San Francisco, Cal. (I do not remember the name of the vessel); Capt. Scott was master. We had five boats, three men to each boat, and one stern boat, all white men; we used shotguns and rifles. * * *

Thos. Brown (No. 1), p. 319.

In 1890 I went sealing again in the schooner *Sea Lion*, Madison, master; had five boats and three men to each boat; I was boat-puller. * * *

In 1891, in the month of February, I sailed from Victoria, British Columbia, on the schooner *Thistle*, Nieherson, master, on a sealing voyage. We had seventeen boats, and three men to each boat, all white men.

We had six boats, three men to a boat, a boat-puller, hunter, and steerer. They used mostly shotguns, using a rifle for long range. *Thos. Brown (No. 2), p. 407.*

I have seven hunters and seven boats; twenty-three men all told on the vessel. *Chas. Campbell, p. 256.*

The weapons used by pelagic hunters are rifles, shot-guns, and spears. I have heard of nets being used, and have seen one on board a sealer (the *Eliza Edicards*, Bering Sea, 1891), but know nothing of it, further than mere hearsay. The other weapons I have seen in use. *John C. Canwell, p. 408.*

The vessels I went out in had from four to six boats each. Each boat had three men, a hunter and two pullers. *Chas. Challall, p. 411.*

I have been out sealing this spring along the coast in the schooner *James G. Sean*. We have been out three times. Our schooner carried fifteen canoes, each one manned by two Indians. *Circus Jim, p. 380.*

I went seal hunting in 1889 as mate of the British schooner *C. H. Tupper*, Capt. Kelly, master. She carried seven boats and white hunters, who used mostly shot-guns. * * * *Christ. Clausen, p. 320.*

In 1890 I was navigator in the British schooner *Minnie*, and was equipped with canoes and Indian hunters, who used spears chiefly. * * *

In 1891 I went as navigator in the same vessel and with the same crew, and they used spears in hunting.

In 1888 I shipped at Victoria, British Columbia, as a boat-puller on the sealing schooner *Oscar and Hattie*, Gault, master. She carried seven boats, each being manned by three white men, who used shotguns. * * * *Louis Culler, p. 321.*

In 1889 I shipped at Victoria as a hunter on the sealing schooner *Maggie Mae*. She carried seven boats, each manned by three white men, who used shotguns in hunting the seals. * * *

In June, 1891, I shipped as a hunter on the sealing schooner *Otto*, Riley master. The *Otto* carried three sealing boats, each manned by white men, who used shotguns, and two canoes, manned by Indians, who used spears.

We had six boats, each boat having a hunter, a boat-puller, and steerer. *John Dalton, p. 418.*

We had seven boats and a stern boat, and three men to a boat. *Alford Dardean, p. 322.*

We had six boats on board, each boat having a boat-puller, hunter, and steerer. We used shotguns. We also had rifles, but only used them to shoot at long range. *Richard Dolan, p. 419.*

Our hunters were ordinary, average hunters. *Peter Duffy, p. 421.*

Geo. Fairchild, p. 423. We had five boats on board, each boat having a hunter, boat-puller, and steerer. We used shotguns and rifles.

Geo. Fogel, p. 424. We equipped our vessels with shotguns and rifles.

Thos. Frazer, p. 365. We had seven boats, but we had only four white hunters; ten hunters were natives from Neeah Bay and Vancouver.

John Fyfe, p. 429. We had six boats on board, each boat having a hunter, two boat-pullers, and a steerer, four men to a boat.

Geo. Grady, p. 433. I went to the Bering Sea in 1889 upon the *Laura*, from Victoria, as a cook. We had three small boats.

E. M. Greenleaf, p. 324. I had six canoes, with Indian hunters, who used both spears and shotguns.

The boat-steerer is supposed to be the most intelligent and competent man on the boat, as he has charge and bears the same relation to the boat that the captain does to a vessel.

E. M. Greenleaf, p. 325.

On February 11, 1889, I sailed from Victoria, as a boat-puller, on the sealing schooner *Ariel*, Buckman, master. She carried six hunting boats and one stern boat, and had a white crew, who use shotguns and rifles in hunting seals. * * *

On January 10, 1890, I sailed from Victoria as a boat-steerer, in the schooner *Sea Lion*, Magason, master. * * *

Our vessel carried a white crew, five boats, each boat manned by three men. We captured about 300 seals from San Francisco to Cape Flattery, by the use of shotguns and rifles. * * *

I went out sealing again the same year on the *E. B. Marvin*, McKiel, master. I shipped as a boat-steerer. We had a white crew and seven boats, and used shotguns and rifles while hunting the seals.

A. J. Guild, p. 231. Their hunters were all natives, who came from Neeah Bay, Washington.

First went out sealing as boat-puller along the Northern Pacific coast about the 26th of June, 1891; sailed from

Jas. Harrison, p. 326. Victoria, British Columbia, in the schooner *Triumph*, Whidden, master. We had two boats and one stern boat, three men with each boat. * * *

I sailed again about February 12, 1892, in the same vessel and the same master. We carried two boats and three men to each boat, all white men in the boats, but we had sixteen Indian canoes, with two Indians in each canoe, and the Indians used shotguns.

I went on a sealing voyage in 1887 as boat-steerer on the American schooner *Vanderbilt*, Capt. Myers, master. She

Jas. Hayward, p. 327. carried six boats and white hunters, who used shotguns and rifles. * * *

In 1888 I went in the American schooner *Chas. D. Wilson*, Turner, master, as boat-steerer, hunting otter and seals. She carried four boats, with white hunters, and they used shotguns and rifles. * * *

In 1890 I went in an American schooner (I can not give her name) as boat-steerer. She carried five boats and had white hunters, who used both shotguns and rifles. * * *

In 1891 I went as boat-steerer in the American schooner *City of San Diego*, George Weston, master. She carried five boats and white hunters, who used shotguns and rifles.

The first season and the last two our hunters were all white men, but on my second cruise we carried mostly West Coast Indians, from Vancouver Island, as mentioned by Norman Hodgson, p. 366. The Indians used spears principally, while the white hunters employed breech-loading firearms (rifles and shotguns) exclusively.

In March, 1887, I joined the British sealing schooner *Mary Taylor*, McKiel, master. * * * She carried five sealing-boats, manned with three white men each. Jas. Jamieson, p. 329. There were three Indians with us part of the season. We used breech-loading shotguns and Winchester rifles.

In January, 1888, I joined the *Mountain Chief*, Jacobson, master. * * * She carried ten canoes, each manned by two Indians, who used spears while hunting the seal.

In January, 1889, I shipped as a boat-steerer on the British sealing schooner *Theresa*, Lawrence, master. She carried six boats, including the stern boat. Our crew and hunters were white men, and were equipped with Winchester rifles and breech-loading shotguns, with which to capture seals. * * *

In January, 1890, I shipped as a boat-steerer on the sealing schooner *Mollie Adams*, McKeil, master. She carried six boats and a white crew, who used shotguns and rifles. * * *

In January, 1891, I shipped as a seaman on the British sealing schooner *Mascot*, Lawrence, master. * * * Our vessel carried one stern boat manned by white men, and eight canoes, with two Indians to each canoe. * * *

I [then] shipped as a seaman and hunter on the British schooner *Venture*. She carried an Indian crew and six canoes. The Indians used spears and breech-loading shotguns while hunting the seals. * * *

In February, 1892, I joined the British sealing schooner *Minnie*, Tyson, master. * * * The *Minnie* was equipped with three sealing boats, all manned with white men.

I first went seal-hunting in 1889 on the schooner *Oscar and Hattie*. She had six boats and a stern boat, three men to each boat. She was armed with shotguns and rifles. James Kean, p. 448.

* * * * *

In 1890 I went out in the *Walter Rich*. She had eight boats, three men to a boat. We had shotguns and rifles, using the former almost altogether.

We had four boats aboard, each boat having a hunter, steerer, and boat-puller, and used rifles. James Kennedy, p. 449.

Last year he went north in schooner *Ariel*, and spent one and one-half months in Bering Sea, with a crew of eight white men and sixteen Indians, and spent half of April and month of May. He caught 1,080 seal.
Kickiana, p. 306.

My vessel carried Indian hunters in all her trips previous to this year (1892) and they used canoes and spears in hunting seals exclusively. The year I was on the *Favorite* she carried Indian hunters also, who used spears. It is now the practice to hunt along the coast early in the season from the Columbia River to the Bering Sea, and enter those waters the fore part of July. * * *

This year I have changed my crew to white hunters, who use shotguns and rifles.

James E. Lennan, p. 369. In the year 1887 [I] was master of a sealing schooner clearing from Victoria. We had eight canoes and sixteen West coast Indian hunters, who use spears and shotguns, the former almost entirely, however.

The sealing fleet is comprised almost exclusively of small schooners, carrying from five to thirty men, some of the crew being exclusively white men and some of them mixed, white men and Indians. They are fitted with the necessary boats, guns, spears, gaffs, water butts, and other implements required for seal killing and to enable the hunters to remain away from the vessel in their boats for several consecutive hours.
Isaac Liebes, p. 452.

I have conversed with the captains of several marauding schooners, and others who were employed in pelagic sealing have informed me that they usually use rifles in shooting seals in the water. Some, however, use shotguns, but to no great extent.
A. P. Loud, p. 39.

Thomas Lyons, p. 460. We had six boats, and a hunter, boat-puller, and steerer for each boat, and used shotguns.

William McIsaac, p. 461. The schooner had four hunting boats, and each boat had a boat-steerer, a puller, and a hunter.

William McLaughlin, p. 461. We had six or seven boats on board, three men to a boat, and we used shotguns and rifles.

I went to the Bering Sea on the *Maggie Ross* from Victoria, of which Captain Olsen was master. I shipped as a boat-puller. She had six boats, three men to a boat, and we used Spencer rifles.
William McLaughlin, p. 462.

The hunting outfit of the *Otto* was rather limited: One seal-hunting boat, which I will designate the first boat; one pleasure boat, heavy and clumsy, the second boat; and one Indian hunter and one canoe man in a canoe. The first boat was manned by the skipper as hunter, an acknowledged expert of twelve years' experience, armed with a No. 12 bore double-barreled shotgun by Greener, of Birmingham, and one Winchester repeating rifle, and a crew of two white

men as pullers and steerers. The second boat was manned by two Swedish seamen, one as hunter and the other as puller, of no experience whatever in the business, armed with a No. 10-bore double-barreled shotgun. The canoe, one Indian hunter, and one canoe-man, armed with the Vancouver Island west coast spear and a single-barrel, muzzle-loader shotgun, this latter, I was informed, merely to give the quietus to the harpooned seal should occasion require. The ammunition used: Curtis & Harvey's No. 6 grain, size 14, in kegs; charge, 6 to 7 drams, and from 15 to 21 buckshot.

We had eight boats, each boat having a boat-puller, steerer, and hunter. The hunter used rifles and shotguns. *James Maloy, p. 463,*

I went sealing in 1891 in the *Oscar and Hattie*, Gault, master; * * * we had six boats and one stern boat, with three men to each boat and two men with the stern boat; we used shotguns and rifles. *Thorwal Mathasan, p. 339.*

We had six small boats on board, each boat having three men, a hunter and two men to pull. They shot both with rifles and shotguns. The rifle was considered the best to use, as the shotgun would wound more. *Eddie Morehead, p. 467.*

In February, 1882, I went sealing from Victoria, British Columbia, in the schooner *Oncard*, McCoy, master. I shipped as mate. We had sixteen canoes, all manned by Indians, two Indians to each boat. The Indians used spears while hunting seals. * * * *John Morris, p. 340.*

About the last of April, 1883, I sailed from Victoria on a sealing voyage in the *Oncard*, Morris, master. We had eighteen canoes, all manned by Indians, two to each canoe. They used spears as weapons.

About the 1st of January I sailed as master of the *Alfred Adams* on a sealing voyage; we had about eighteen canoes, with two Indians to each canoe; they hunted with spears. * * *

In February, 1885, I sailed from Victoria, British Columbia, on the schooner *Seventy-six*, Potts, master. We had three boats and three men to each boat; had a white crew. * * *

In the month of February, 1887, I sailed from Victoria, British Columbia, in the schooner *Black Diamond*, I, Morris, master. We had twenty-four canoes, each manned by two Indians. The Indians used spears in hunting the seals.

In 1887 I went sealing in the Bering Sea on the British or Japanese schooner *Ada*. I do not know the name of her master, but he was a white man. She carried seven canoes, each manned by two Indians, and one stern boat, with three white men. The Indians hunted with spears and the white men with guns. * * * *Moses, p. 310.*

In 1889 I went again to the sea in the sealing schooner *Minnie*, Jacobson, master. She carried eight canoes and two boats. Two Indians who used spears were employed in each canoe, and three white men, using guns, were in each boat. One boat with three white men got more seals than one canoe with two Indians. * * *

In 1891 I went up to the Bering Sea in the same vessel, and she had the same master and carried the same number of boats and canoes.

We had six boats, each boat having three men, a boat-puller, steerer, and hunter. We used shot-guns, using a rifle to shoot at long range.
John O'Brien, p. 470.

We left Port Townsend in February and cruised along the coast from Grays Harbor to Kyoquot Sound. Our crew were all white men, of whom twelve were hunters armed with shotguns.
Nelson T. Oliver, p. 372.

We left Vancouver for Victoria on the 29th of March, and fitted out the vessel, leaving Victoria on the 8th day of April. She carried four 16-foot boats and one stern boat, 14 feet. She carried two men to the boat, one to pull and one to hunt.
John Olson, p. 471.

About six years ago I went to Bering Sea, as a hunter, on the sealing schooner *Favorite*, McClean, master. She carried one stern boat and ten canoes.
Osly, p. 390.

In 1882 and 1881 I sailed as cook in the British schooner *Onward*, McCoy, master. She carried Indian hunters and sealed along the coast.
Wm. Parker, p. 344.

In 1884 and 1883 I sailed as cook on the British schooner *Thornton*, Nelse, master. She carried Indian hunters. The Indians used spears and sometimes would have and old musket. * * *

In 1887 I sailed from Victoria as hunter and interpreter in the British schooner *Ada*, Gordon, master. She carried seven canoes and one boat, and Indian hunters who used spears. * * *

In 1888 I sailed as hunter and interpreter in the British schooner *Alfred Adams*, Worth, master. She had Indian hunters and carried ten canoes of 2 men each. They used spears and shotguns. * * *

In 1889 I sailed as hunter in the British steamer *Ariel*, Buckner, master. * * * We were all white hunters and used shotguns and rifles.

I went sealing in 1890 in the *Walter Rich*, Capt. Cooper, master. * * * She carried six boats and a stern boat. The hunters were all half-breeds, except myself.

In April, 1886, I went seal-hunting from Victoria in the schooner *Mountain Chief*, Jacobson, master. Our schooner carried ten canoes, each manned by two Indians, who hunted with spears. * * *

In the spring of 1887 I went on a sealing voyage from Victoria, as a boat-puller, in the schooner *Alfred Adams*, Dyre, master. She carried one stern boat and two Indian canoes. We had a white crew, but the canoes were manned by two Indians each.

In April, 1890, I went sealing in the *Minnie*, Jacobson, master. She carried fourteen canoes, manned with Indians, two Indians with each canoe, who used spears.
Chas. Peterson, p. 346. * * *

In January, 1891, I left Victoria on a sealing voyage in the schooner *Minnie*, Dillon, master. We carried two boats manned by white men, and ten canoes, each manned by two Indians, who used shotguns.

I went out sealing as boat-steerer on the British schooner *Penelope*, Capt. Steel, master; I think it was in the year 1888 when I went in her. She had five boats and white hunters. They used shotguns and rifles; shotguns chiefly. *Edwin P. Porter, p. 346.*

In 1889 I went as boat-steerer on the British schooner *Ariel*, Capt. Rueknam, master. She had six boats and four canoes. Carried both white and Indian hunters. White hunters used shotguns and rifles. Indians used spears, chiefly. * * * *Edwin P. Porter, p. 347.*

In 1891 I sailed as boat-steerer in the British schooner *Umbrina*, Capt. Campbell, master. She carried seven boats and had white hunters, who used shotguns and rifles. * * *

This year I went as boat-steerer in the British steamer *Thistle*. She had six sealing boats and two whaling boats, and carried white hunters with shotguns and rifles.

On January 14, 1890, I sailed as a boat-puller from Victoria, British Columbia, on the British sealing schooner *Maggie Mac*, Dodd, master. She carried six sealing boats that were manned by 3 white men each, who used breech-loading shotguns and rifles. * * * *Wm. Short, p. 348.*

In July 1891, I sailed out of the port of Victoria, British Columbia, as a hunter on the British sealing schooner *Otto*, O'Reily, master. She carried one stern boat, manned with three white men.

We had six boats on board [the *Penelope*, in 1884], each boat having a boat-puller, a hunter, and a steerer. We used shotguns mostly, except for long range we used rifles. * * * *Jas. Sloan, p. 477.*

We had nine boats [on the *Arctic* in 1889], four on one side and five on the other. Each boat had three men. * * *

We had six boats [on the *Flying Mist* in 1871], four men to a boat; two boat-pullers, steerer, and hunter. We used rifles for shooting.

I went sealing in May, 1891, as boat-puller in the steamer *Thistle*, Nicholson, master. She carried seven boats and one stern boat, all white crew, and three men to each boat. * * * *John A. Swain, p. 350.*

In February, 1892, I again shipped in the schooner *Geneva*, O'Lery, master; she carried seven boats and one stern boat, and three men to each boat; I was boat-steerer.

We had seven boats on the *Allie Alger*, each boat having three men, a boat-puller, a steerer and hunter. *Adolph W. Thompson, p. 486.*

While master I was also engaged in shooting seals. I used both a rifle and double-barreled shotgun; the rifle for shooting "travelers" and the shotgun for shooting sleeping seals. The *City of San Diego* had four boats. Each boat had a hunter and two men to pull. The *Terese* had five boats similarly equipped. The *Lottie Fairfield* had six boats similarly equipped. The *Undaunted* had four boats. *Michael White, p. 490.*

INDIAN HUNTERS.

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Akatoo, p. 237.

Have always taken seal with spear and shot-gun; never used a rifle.

There are two methods of taking seal in the water practiced on the Northwest coast; white men employ firearms exclusively, while the native Indians generally use spears. The most expert of these spearmen are the Neah Bay Indians, and as seal hunters they surpass all others. An expert white hunter, even with the best of firearms, can not compete with them, for when he approaches a group of sleeping seals, all in close proximity to one another, he can not expect to get more than one of the number. The noise of his gun will startle all others within a radius of a quarter of a mile or more, thereby destroying all chance of catching another seal asleep. It sometimes happens, however, that a skilled hunter will capture two or three out of a group, but such cases are exceptions rather than the rule. It is different with an Indian hunter who uses a spear; he silently approaches the sleeping victim and noiselessly hurls his spear at it with a deadly aim, and the only thing heard is the hard breathing and slashing of the seal as it fights for liberty.

The spear which the Neah Bay Indians use is double pronged, which in their hands is a formidable weapon. The shaft is 12 feet long, and made of cedar; the prongs are hard wood, one 30 and the other 18 inches long, about 4 inches apart at the ends, and pointed. The prongs and shaft are scarped together and held in place by a serving of small cotton line. The long prong is a continuation of the shaft, but the short one projects off at a slight angle. The spearheads are made of bone and steel, with a single barb at the sides and a socket in the butt, into which the ends of the prongs are fitted. In the middle of the spearhead is a hole, into which is bent a lanyard made of whale sinew, which is sewed with cotton twine to prevent it from chafing. To the lanyard is fastened the spear rope, which in early years was also made of whale sinew, or other durable material, but now cotton line is used as a substitute, it being much easier procured, and answers the purpose equally as well. The spearheads are held in position by the spear rope, which is hauled taut and fastened to a whalebone becket at the end of the shaft. In throwing the spear, two fingers of the right hand are placed over a small flat handle, the other hand acting as a rest upon which the spear is balanced. When the spear is thrown the long prong is held uppermost. The reason for this is that if it should pass over the back or head of the seal the short prong will be sure to strike it. As soon as a seal is struck the spearheads slip from the prongs and the rope from the becket. No notice is taken of the shaft, as it can be picked up after the prize has been secured.

As an illustration of this method of taking seals, I give in detail one of my experiences: On the afternoon of April 23 I went out in one of our canoes, managed by two Neah Bay Indians, father and son. The weather being pleasant and sea smooth, sail was set, and with the assistance of paddles we made good speed in a southwesterly direction. Two men usually go in a canoe; one handles a spear and the other a steering paddle. No great importance is attached to the man who steers, as it requires no special skill to keep the canoe on the course de-

sired; but to the skill of the one who stands in the bow and throws the spear depends the success of the hunt, and if he should be so unfortunate as to miss several seals in succession his dusky partner in the stern thinks himself justified in using strong language. All seal-hunting canoes carry a small sprit-sail made of drilling, which can be set and taken in very quickly with little or no noise. Oars and paddles are both used; the former when a long passage is to be made, the latter when among seals. The spearman always keeps a lookout for seals, and stands upon one of the forward thwarts, with one hand resting against the mast to steady himself. In this position he commands a good view on either side and ahead. It is not to be understood, however, that the man in the stern keeps no watch, for his eyes are ever on the alert, but his lower position prevents him from seeing any great distance. As soon as a seal is sighted the sail is taken in, rolled up, and placed where it can not make a noise by thumping against the side or on the thwarts. The gaff and killing clubs are placed in a handy position, and the spear examined to see if everything about it is strong and in good working order. If the seal is some distance away both the men paddle, but if close by only the hunter at the stern paddles, the direction being indicated by a wave of the hand from the man in the bow.

Silently the sleeper is approached, all unconscious of its danger. If the coveted prize should show signs of uneasiness, no risk is taken, and the hunter throws his spear when within 40 or 50 feet of it. He seldom misses the mark even at this distance, but will always approach nearer if possible. At the end of an hour we saw our first seal about a quarter of a mile ahead. The canoe was kept off under its lee, the sail taken in, and everything put in readiness for action. Cautiously we paddled towards the prey, care being taken not to make the slightest noise. We had approached within about 40 feet when the seal began to grow restless, as if it was dreaming of danger. The hunter stood braced, spear in hand, and with true aim he hurled it with all his force at the sleeping object. In an instant the scene of repose was changed into one of intense excitement and pain. With a jump the seal instantly disappeared below the surface, but not to escape, for when once a spear becomes fastened to an object it seldom pulls out. Soon it came up to breathe and renew its desperate struggle for liberty. It stood in the water facing us, with its body half exposed as if taking in the situation, and with a kind of low, piteous growl, as though it realized its end was near, it renewed the contest. It fought madly, diving, jumping, and swimming with great speed, first in one direction and then in another, sometimes on one side of the canoe and then on the other, the Indian all the time holding on to the spear rope, trying to draw the seal near the canoe so as to strike it on the head with the killing club. In its frantic efforts to escape it bit at the line several times, but soon abandoned the idea of gaining its freedom in such a manner and again resorted to jumping and diving. The loss of blood soon caused it to grow weak, and after a fight, which lasted perhaps five minutes, it ceased to struggle altogether and was hauled to the side of the canoe and dispatched with the club.

In a few minutes another seal was observed asleep a short distance away; again sail was taken in and the same precautionary means used as before. This individual was approached within 25 feet, and so good a mark was it that the spear was driven nearly through the body. It died almost immediately, and from the time it was struck until it was

landed in the bottom of the canoe did not occupy more than three minutes.

We had not proceeded far on our course when two seals were sighted close together. They were so near each other that it was impossible to spear one without waking the other, so the larger one of the two was selected. As soon as it was struck the other awoke, and with a few jumps was out of danger, leaving its companion to perish alone. We soon found that this seal was going to make a hard fight and would probably give us no little trouble. It jumped and dived in quick succession, pulling at the spear rope with sufficient force to move the canoe about in a lively manner, and on two occasions the Indian who was "playing" it had to let go of the line altogether to save himself from being pulled overboard. This kind of work was very severe on the hands, but the Indian held on regardless of bleeding fingers. When the seal would come to the surface to breathe a little slack rope would be gathered in, only to be lost much quicker than gained. And so they fought; first the hunter and then the seal would have the advantage of the situation, and, at the end of eight or ten minutes, the seal apparently was as fresh as when first struck. It looked as if the fight might last for a considerable length of time, which of course did not suit the Indians. In order that there should be no mistake about the result of the fight, an old rifle was brought forth from the bottom of the canoe. Watching his opportunity when the seal was making one of its leaps, the hunter in the stern fired. He missed the mark twice, but these failures did not by any means prove him to be a poor shot, for a person who can hit a seal that is jumping wildly about in every direction at the end of a spear line is indeed a good marksman. A third shot, however, took effect, and the battle was decided.

Close quarters evidently did not suit the seal, for it showed its teeth in a very unfriendly manner, and on one occasion set them in the side of the canoe. This act was the only false movement the seal had made since the fight began, and it paid the penalty with its life; a rifle ball was put through its body and a club landed on its head at the same time. Upon examination, after being hauled into the boat, we found that the spear-head had passed through its right flipper, which accounted for the long fight, as it could use its other flippers to good advantage.

Prosperity has the same effect upon Indians as upon white men, and soon sail was made and a sharp lookout kept for others. Two more were observed during the afternoon, one of which was captured very easily. The other was awake and came up a short distance away with a red rockfish in its mouth. This fact indicates that there are shallow spots in this vicinity (Lat. $58^{\circ} 58'$ north; Long. $141^{\circ} 7'$ west) where seals feed. Indeed, it may be one of the favorite feeding grounds when in northern waters, for it has long been reported that many fishing banks exist on the Fairweather grounds. This was the last seal seen during the day by us. A fresh breeze sprang up, accompanied by a short, choppy sea, and in consequence we were obliged to return to the ship, where we arrived about 6 p. m.

Have used a spear for taking seal all my life, but when seal are wild sometimes I used a shotgun.
Willon C. Bennett, p. 356.

The Indians make a sure work of it, and secure nearly every seal that they spear. They do not make so much noise in approaching a sleeping seal as the white hunters do. When an Indian in a canoe is approach-

Henry Brown, p. 318.

ing a bunch of seals asleep on the water he does not remove his paddle from the water, but dexterously and noiselessly moves it in the water, because the least sound would awaken the seals. The hunter who uses a gun not only disturbs the seal he shoots, but awakens and disturbs the others, who then make their escape.

The spears with which my people hunt seals almost exclusively is similar to the harpoon used by us in killing whales, only it is smaller. It has a handle about 14 feet long, that will come off when the harpoon sinks into the seal, and the iron head is secured to the boat with a line about 70 feet long. In throwing the spear we use both hands, and if we hit are almost sure to get him. *Peter Brown, p. 378.*

I hunted with shotgun and rifle, but mostly with shotgun. *Jas. L. Carthout, p. 409.*

I never hunted seals with a gun; neither have I been in the Bering Sea. *Charlie, p. 305.*

In early days the spear was used in taking seal, but now the shotgun and rifle are used exclusively. *Simeon Chin-koo-tin, p. 256.*

In spearing seals I use a harpoon with either one or two barbs, similar, but smaller than that used in taking whales. The harpoon has a handle about 12 or 14 feet long, and a strong line, about 70 feet long, is attached to the barb, the other end of which is fastened to the canoe. We throw the spear at a seal with both hands, and when the spear or harpoon hits a seal the barb becomes detached from the handle but is securely fastened in the body. The handle floats upon the water and is afterwards secured and is used again. I lose but very few seals that I hit with the harpoon. *Jas. Claplanhoo, p. 381.*

When I was a boy spear was used; now a shotgun and rifle are exclusively used for taking seal. *Charlie Dahlin, p. 278.*

It was while the seals were asleep on the water, as a rule, that the Indian hunters succeeded in capturing them with the spear, and this is the reason they lost but very few of what they killed. *Jas. Dalgarduo, p. 364.*

I have always hunted in canoes and with spears, and years ago would kill a great many seals. I was up in the Bering Sea sealing in 1889 and have not been there since. All the other years I have been seal hunting along the coast between Grays Harbor and Barclay Sound. *Frank Davis, p. 383.*

Have hunted seal off Prince of Wales Island in the spring. In former years I used to catch seals with a hook by paddling up close to them when they were sound asleep and hooking them. Can't use the hook now as the seal have become very wild since they are hunted so much by schooners. Now I use the shotgun exclusively for taking seal. Very seldom I lose one, as I always shoot them close to the boat. *Echor, p. 279.*

- Chief Frank, p. 280.* Have hunted fur seal in canoes.
- Nicoli Gregoroff et al., p. 234.* We use fire arms (rifles and shotguns) principally, and hunt in bidarkas.
- Ishka, p. 337.* I have always used spears while hunting the seals in canoes.
- When I first began hunting, spears and arrows were used for sealing. Now the shotgun has come into general use, and a few seals are taken with a rifle.
- Mike Kethusduck, p. 262.*
- C. Klananek, p. 263.* A long time ago I hunted seal with a spear, but of late years have used the shotgun.
- Robert Kooko, p. 296.* I have used the spear and shotgun.
- Jno. Kowineet, p. 264.* In early days I used spear altogether; of late years the shotgun and rifle have been used exclusively.
- Geo. Lacheek, p. 264.* In early days spear and arrow was used exclusively, but now the shotgun and rifle are used instead.
- Indian hunters will not stay out over ten days at a time when we are on the coast, so we have to come in and out quite often.
- Andrew Laing, p. 335.*
- Thomas Lowe, p. 371.* During the first seven years I used the spear in hunting seals. This year I have used the shotgun part of the time.
- Have seen and taken the first seal off Cape Flattery. When seal are taken off Cape Flattery, Indian hunters were employed, who used spears. Farther west the shotgun was used.
- James McKeen, p. 267.*
- The spear used by the Vancouver Island Indians for seal hunting is 10 feet long in the shaft, tapering off towards the ends, and thus well balanced. At the point the shaft forks off into two prongs, on which the spear-head or harpoons fit easily, being attached to the shaft by a cod line, which runs up to the butt, where it is caught in a bight and held round the thumb of the right hand. On being projected the shaft separates from the harpoons and floats on the water unheeded till the seal is secured. But few are missed. Any that escape wounded only suffer from a flesh wound of $2\frac{1}{2}$ inches in depth. Once the harpoon pierces the skin beyond the barbs the only possibility of escape lies in the chance of the line breaking. This system of capture is both economical from a business standpoint, as well as that of being almost, if not entirely, less destructive to seal life, as compared with modern arms of precision.
- Robert H. McManus, p. 338.*
- Moses, p. 310.* In hunting with the spear we make but little noise and get almost all that we hit.

I have always hunted with a spear and never with a gun, and have never been in Bering Sea. *Wilson Parker, p. 392.*

Seals were caught by them [the Indians] with spears and but few were lost; but since the shot-gun has come into use a great many are destroyed and lost. *Charles Peterson, p. 246.*

UNITED STATES REVENUE-STEAMER CORWIN,
Sitka, Alaska, May 4, 1892.

Capt. C. L. HOOPER, U. S. R. M.,
Commanding:

SIR: I herewith respectfully offer the following notes relative to pelagic sealing derived from observation and personal experience. *J. H. Quinn, Vol. I, p. 504.*

In obedience to your orders I accompanied two Neah Bay Indians, Chad and Wilton by name, May 1 and 2, off Sitka Sound, to hunt seal. The canoe we used is of the Neah Bay type, hollowed out of white cedar, 24 feet long, 3½ feet beam, and 20 inches deep, braced by thwarts secured to the sides by cedar twigs, the stern rising abruptly 10 inches and stem projected forward and rising gradually to 2 feet above the gunwale, the latter terminating in a figurehead, which, with the long prow, resembles some fanciful animal, not unlike a giraffe. In this head is cut a notch, on which the spear rests when ready for use. A rifle, shotgun, spear and line, mast and sail, two paddles, a pair of oars, gaff pole, short club, a prismatic-shaped wooden bailer, and a box of ammunition and bread completed the outfit. After leaving the ship, the Indians, one sitting in the stern with his paddle, and the other in the bow with his oars pulled to windward, this being invariably the rule, as it is in this direction the seal must be approached. We had pulled several miles without seeing anything, when suddenly the steersman gave the canoe a shake and pointed in silence to a seal 75 yards distant, lying on its back in the water, apparently asleep. Its flippers were raised in the air and moving listlessly from side to side, as if fanning itself. The bowman took in his oars and substituted the paddle, and the canoe glided noiselessly toward the unconscious seal. When within 40 yards of it the after paddle alone was used, and the bowman stood ready with the shotgun. It was soon seen that the seal's head was under water. The Indians told me afterward that it was only drowsing and looking for fish. Whether this be a fact or not I do not know. In this position a seal is said to be "finning."

During all this time not a word was spoken, and so noiselessly did the canoe glide that we got within 10 yards of it and the hunter fired, pouring a charge of buckshot into its breast. The seal, to my great astonishment, was not killed, but gave us one surprised look and instantly dived out of sight. It rose again 50 yards off, gave us another look and a second time disappeared. Then followed a chase to windward, the Indians dexterously applying their paddles in that direction. Three times it disappeared and reappeared before it was finally shot and captured. Even then it was necessary to use the club to kill it. One hook with the gaff, a sudden pull, and the unfortunate seal was in the canoe.

The oars and paddles were again used and we continued on our way. The next seals we sighted were three in number, asleep on their sides and backs on a bunch of kelp, their favorite resting place. Their fore and hind flippers were visible, the former closed on their breasts; their

heads were lying to leeward, and moving slowly from side to side. In this position a seal sleeps soundly. When its head ceases to move, it is an indication that it is waking up, and this is the time to shoot. The canoe this time approached from a point nearly at right angles to the wind, so as to get a good shot. The most vulnerable place is in the neck just back of the head. One of the three was instantly killed, another shot and killed after diving and reappearing, and the third escaped. The first one was allowed to float until the second was secured, occupying a space of about twenty seconds.

The time it requires a seal to sink depends upon the character of the seal and the place in which it is shot. Some sink instantly, while others float for two or three minutes, and possibly longer. Gravid cows, that is, cows that are heavy with young, sink more slowly than males, and seals that are lean more rapidly than those that are fat. If the lungs of a seal which has been killed retain air it will float for quite a while.

The best time for hunting seal is a good day following a protracted spell of bad weather. In a very rough sea seals can not sleep, but merely lie on the surface and lazily roll over and over; hence the term "roller."

After securing our third seal we set sail, which consists of a sprit-sail bent to a mast which can be easily stepped and unstepped. After sailing a few miles we sighted several more seal asleep on kelp, and took in the sail and proceeded under paddle alone. This is always done, as the canoe is more easily handled and the flapping of the sail is liable to frighten the seal. We succeeded in getting within 40 yards, when one of the group, which was awake, gave the alarm. Instantly the Indian fired, wounding it in the the head, but they all escaped.

As a rule it is an easy matter, especially for a canoe, to get within 10 yards of a sleeper. Sometimes the hunters can almost touch them with the spear. Out of sixteen seals which we saw, twelve were asleep, and four playing. We killed and captured three, all of which were cows, wounded three, which escaped, and missed two. The shotgun was used exclusively in all cases but one, when the rifle was used at long range. The Indian hunter, Wilton, who did the shooting, is considered a good shot, and this is about the percentage, he tells me, which he usually gets. The Indians are more expert with the spear and seldom miss with that weapon. They use it, however, only on sleepers. They were very anxious to use the spear instead of the gun, but I would not allow them, in accordance with your instructions, since white hunters use the gun exclusively, and it was desired to learn what percentage of those shot escaped and are lost by sinking.

For the information of those who do not know I will describe the spear and manner of using it. I refer you to the drawing. The spear is made of wood and consists of four parts, viz, (a) made of fir, 12 feet long, 1 inch in diameter handle (b) and two prongs (c¹) made of the branches of crab apple, one 30 inches, and the other 15 inches in length. Over the ends of these prongs fit spearheads (d) and (d¹) made of elk horn and old files. To each spearhead is fastened a stout sinew or cord (e), procured from the tail of the whale and served with twine. These are only a few feet long, and form a bridle to which is attached a stout eod line (f) 12 fathoms long. The horn of the spearheads, to which this sinew is attached, is covered with a thick coat of spruce gum to keep out water and prevent rotting. When the spear is used the line is drawn taut along the spear, a kind of hitch or slipknot taken over a cleat or lug (g) and the end of the line made fast to a thwart in the head sheets of the canoe, the rest of the line coiled down neatly for running. The

bowman rests the spear in the notch at the head of the canoe until almost within spearing distance; he then raises it with his left hand, grasping it at the handle (*b*) with his right, the first two fingers in the notches, which are set in a plane perpendicular to that of the prongs. The longer prong is always uppermost, so that in case it misses its prey the shorter will do its cruel work.

As soon as a seal is struck the spear detaches itself from the line and spearheads and floats on the water. Then commences a struggle and a scene such as follows the catching of a shark or other large fish. If the seal is not a formidable one it soon tires itself out, and is dragged to the canoe to be clubbed to death. If it be of a larger growth, an old bull, for instance, and shows fight, it is necessary to shoot him before he can be captured. On one occasion an old bull, in his terrible fury, bit a small piece out of the side of the canoe.

The Indians do not like to resort to the gun unless absolutely necessary, as firing frightens other seals which may happen to be in the vicinity.

I inclose rough drawings showing canoe, with mast and sail, paddle, thwarts, spear, and line.

I used the bow and arrow for killing them. *Schkatatin, p. 243.*

During these three years I had frequent conversations with the masters and crews of sealing vessels in relation to open-sea sealing. From these conversations, and also from my own observations, I make the following statement in relation to pelagic sealing: The weapons used by seal-hunters are rifles, shotguns, and spears. The Indians use spears, and a canoe contains two Indians, the foremost thus armed. *L. G. Shepard, p. 188.*

When I was a young man I killed fur-seal off Yakutat Bay, using a spear altogether. *Showoosch, p. 243.*

In early days I used the spear, but now I use the shotgun and rifle exclusively. *Martin Singay, p. 268.*

When I was a boy the spear and arrow was used for sealing, but now the shotgun and rifle are used exclusively. *Jack Sitka, p. 268.*

Spear is mostly used by the Makah Indians. Farther north the shotgun is used. *Wm. H. Smith, p. 478.*

Have hunted seal and sea-otter all my life during the summer season, using the spear and arrow. *Stahkan, p. 244.*

When I was a young man the spear and arrow were used, but of late years the shotgun and rifle are used exclusively. *M. Thlakahdaynahkee, p. 269.*

When I first began to hunt spear and arrow were used exclusively; the shotgun is now used by the Indian hunters for the same purpose in lieu of the spear and arrow. *Jas. Unatajim, p. 271.*

Charlie Tlaksatan, p. When I first began hunting I used a spear and
270. bow and arrow, but now the shotgun is used exclusively.

Charlie Wank, p. 273. The spear was used in early days, but now seal
have become scarce and shotgun and rifle is used
exclusively.

Many years ago, when seal were plenty, the spear was used, but now
so many schooners are engaged in sealing that
Michael Wooskoot, p. the shotgun and rifle has to be used in order to
274. secure them, as they have become very wild.

WHITE HUNTERS.

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The work of seal-hunting is carried on about as follows: The hunter
and boat's crew leave the vessel at daylight,
William Brennan, p. usually carrying one rifle and a shotgun, though
360. some of them have two shotguns with about fifty
rounds of ammunition for each gun. If a breeze is blowing they go
under sail, or, if it is calm, the boat is rowed. The hunter has charge
of the boat, no matter if he is not an expert boatman.

If a sleeping seal is seen, the boat is run within about 100 yards of
it, and the sail and mast are lowered with the least possible noise, as
the seals are easily awakened. The boat-steerer cautiously paddles
toward him, being careful to keep to the leeward, and with ordinary
care the boat can come within a few feet of him before he is aware of
it; then, if the hunter is cool, the seal is sure to be captured. Should
the seal be only wounded, he will dive, unless hit in the flipper or nose.
If he is not killed so dead as to be unable to dive, ten to one he will
get away, for it is uncertain where he will come up, and the boat may
be a long way from him when he reappears. In such case the boat
usually remains still, with boat-puller and steerer standing ready to
follow him as soon as he is seen; but he very often rises out of range
and gets away. An experienced hunter and boat's crew will get at
least seventy-five per cent of "sleepers," and perhaps more; but the
sleepers form but a small part of the seals hunted. The noise of fire-
arms will awaken every seal within the distance of half a mile, and put
it on the alert. The boats stay out until dark, if the weather is fine,
and the five or six usually carried by a sealing vessel cover an area of
5 or 10 miles on either side.

If the seal is "finning" the hunter will probably spend ten or a dozen
rounds of ammunition, provided he wounds it with his first shot before he
takes it in, which he often fails to do. If it is "breaching"—that is,
jumping clear of the water—the hunter will most likely try a rifle-shot
at it, as there is a bare chance that he may hit it. If he wounds it and
it escapes it is all the same to him, except that he has one less skin.

To be a good hunter a man must be a crack shot on the start, and
then it will take him at least two seasons to learn the motions of the
seal, so as to be considered an expert. He must understand how to
approach the seals under all circumstances so as not to arouse them,
and must also have a good boat-steerer, as a great deal depends on him.
Perfect quiet must be kept in the boat, or the seal will be awakened;
and the boat-steerer must understand the seal's habits as well as the

hunter, in order to know where to head his boat and where to keep her. A crew new to the business sometimes makes a good catch, but it is generally at the expense of a large proportion of seals that are killed and lost, or wounded and escape. The vessels engaged in the sealing business range from 15 to 150 tons burden, or more, large vessels being in favor because they can carry more boats, with less expense in proportion to size, than the small ones.

The principal ports from which sealing vessels sail are Victoria, British Columbia; San Francisco, Cal.; Port Townsend, Wash.; and Yokohama, Japan. The fleet from Victoria comprises sixty vessels or more, and one will travel the world over without finding better or faster schooners than some of them are. Next to Victoria, in numbers, comes San Francisco, all under the American flag. Yokohama formerly sent out twelve or thirteen vessels under different flags. I have seen vessels operating from that port flying the Dutch, German, French, Russian, American, English, and Japanese flags, engaged at otter and seal hunting. About seven or eight vessels are from Puget Sound. The Victoria and Puget Sound fleet attends only to sealing, while the vessels from San Francisco and Yokohama engage in otter-hunting and sealing combined. The vessels carry from one to seven boats each, and each boat except the one carried at the stern is manned by three men. In going upon the hunt the hunter stands forward, the boat-puller sits in the center of the boat, and the boat-steerer in the stern. The boats are from 18 to 20 feet long and carry usually two pairs of oars, three or more paddles, a short seal club to kill the seal with (if he is alive when they get him alongside), a gaff with a long staff to hook him up if he sinks, a fog-horn, a compass, an ammunition box for the hunter, a water-beaker, a box for food, a small sprit sail and mast, and at least one shotgun.

Vessels that are manned by Indians do not carry hunting boats as a rule. The Indians furnish their own canoes and spears, and often a shotgun or rifle, or both. A vessel, say, of 70 tons, will carry six boats, five of them hunting boats, and one at the stern. The owner furnishes guns, ammunition, boats, food, etc., and engages the captain and hunters. The captain employs the boat-pullers, steerers, and the crew, though in some cases the hunters engage their own pullers and steerers. A vessel of this size would carry 21 men, all told, including a captain, mate, cook, 5 hunters, 9 men for the boats, 1 spare man, and a boy. The master's wages range from \$75 to \$100 per month; but some of them get wages only, while others have wages and a "lay," that is, a share of the profits. Good hunters get from \$3 to \$3.50 per skin for every one they bring on board; but each hunter has his price and makes terms with the owner, which he keeps to himself. The crew receive \$30 per month, and have sometimes a private agreement with the hunter to 10 to 25 cents additional out of his own pocket for each skin brought on board; for, as I have said, much depends upon the steerer, and each has his favorite. The mate gets from \$45 to \$50 per month, the use of the stern boat, and \$1 for every skin he brings on board. The cook receives from \$50 to \$80 per month, according to the number of men he cooks for.

The first vessels leave about January, and from then until March they are becoming fewer in port every day. They go to some of the bays and inlets upon Vancouver's Island, off Cape Flattery, or down along the California coast. Many hunt in a circuit from Cape Flattery to the mouth of the Columbia River on the south, and to the north end of Vancouver's Island on the north, as the head hunter or captain may determine. Some think, by going south and following the seals up as

they move northward they will catch more; while others believe they can do better by staying close to Cape Flattery. Those vessels which carry Indian hunters go to the Indian villages, and some of them take as many as fifteen canoes if they can get them. Of late years the Indians are learning the prices of skins, and claim more than the owners can afford to pay. They always want to ship on a first-class schooner, unless they own it, when any rattletrap will do. When they start for Bering Sea they usually leave a part of their canoes behind, taking about one-third less than they used in the spring catch. The vessels furnish them flour, biscuits, tea, coffee, sugar, and a little meat when they can not get fresh seal meat. They have two men to each canoe. The head man of the canoe receives the money and pays his assistant. Each canoe is usually provided with a couple of steerers, and either a shotgun or rifle. The most skillful hunter among Indians on board is called "captain," and it is his duty to tell his men when and where to lower their canoes for hunting, and to transact all business between them and the captain of the vessel. Seven or eight years ago the Indians were paid by the length of the skin, but now they are paid by its grade.

In fine weather the boats leave the vessel at daylight and hunt until dark, taking about one day's provisions with them; and should they get lost in a fog they have a hard time until they are picked up by some vessel. When the boats come alongside the vessel, at night, the skins are counted on deck for each boat; the mate takes charge of them and salts them down in the hold, and the crew of each boat gets credit for the skins it captured. The work continues until the spring season is finished, when some go to Victoria to refit, and others in Barclay Sound, and send their skins to Victoria by steamer, with orders for supplies to be sent to them when the steamer returns. Others go on without coming into port to Sand Point, or some other place on the coast, where there is a store, and take supplies before entering Bering Sea. They do not like to go into Victoria, because they usually have trouble with their crews. The work is hard and dangerous. The pay is small, and many run away when they get a chance. There are very few sailors among the crews, the most of them being green hands. Of course each vessel carries two or three sailors in case anything happens to the rigging or sails.

When they arrive in Bering Sea later in the season, they start in to work in earnest. The water is full of them and you can hear them firing all around. The vessels enter the sea about July, but get the most of the seals in August or early September, when the weather gets bad, but they usually have a good catch by that time, if not interfered with. When the hunting is finished they return to the home port, the crew is paid off, the vessel is laid up, and the owner takes charge of the skins and either sells them in the home port or ships them to London.

UNITED STATES REVENUE STEAMER CORWIN,
St. Paul, Kodiak Island, Alaska, June 14, 1892.

HON. SECRETARY OF THE TREASURY,
Washington, D. C.:

SIR: I have the honor to transmit herewith the following additional notes upon pelagic sealing, trusting that it may prove of interest to the Department. The duties of the vessel, when constantly cruising, require so much of my time that I have been unable to make a full report upon this subject as I had hoped to do.

C. L. Hooper, Vol. I, p.
498.

During my cruise, which began March 9 and ended May 16, I endeavored by every means at my command to give information in regard to pelagic sealing, and while the time has been much too brief to give the matter a thorough and comprehensive investigation, I have been able to gather some facts. The affidavits of more than 200 men, more or less familiar with pelagic sealing, were taken and transmitted to the Department, and while these affidavits differ some in different localities, they are in the main the same and confirm my own observations. Among these 200 men whose statements were taken under oath, many of whom had spent their life hunting fur-seal, not one was found who had ever known of a fur-seal hauling out upon the land or outlying rocks or islands upon the coast of California, Oregon, Washington, British Columbia, or Alaska, except upon the Pribilof Islands. Neither have they ever known a fur-seal to bring forth its young upon the kelp or in the water or upon any of the coasts mentioned, except the Pribilof Islands.

My observations of the fur-seal began on the Pribilof Islands in 1869, and I have visited the islands since at intervals. Last year, 1891, I cruised during July and August in the vicinity of the islands, and examined the rookeries carefully from the vessel and from the shore. To the best of my belief there were not one-fourth part as many seals there last year as when I first visited the islands in 1869 and 1870. That the fur-seals both in the Bering Sea and the Pacific Ocean are becoming less each year there can be no doubt, and unless the indiscriminate slaughter is stopped, they will soon become extinct in the waters named.

In this connection I wish to state that in my judgment by far the greater slaughter and waste of seal life takes place in the Pacific Ocean, where they are constantly hunted and harassed from the time they arrive off the coast of California in January until they enter Bering Sea in June and July. There are this season probably 700 boats or canoes engaged in hunting fur-seals in the Pacific Ocean along the American coast; many of them commenced hunting in January or February off the coast of California and Oregon, and have kept it up continually, following the seals in their movements northward until at the present time they are in the Alaskan Gulf between the St. Elias region and the Aleutian Island passes, toward which the seals are making their way, frightened and exhausted after four months' constant effort to escape the spear and shotgun of the hunter.

The seal catch in the Pacific Ocean of the Victoria sealing fleet alone up to the 12th instant was estimated at 30,000. Victor Jacobson, master of the British sealing schooner *Mary Ellen*, one of the oldest sealers out of Victoria, who furnished me with this estimate, declared it as his belief, based upon what he knew about sealing, that the 30,000 seals taken represent a loss of over 100,000 seals on account of the killing of unborn young, and the loss by sinking and wounding past recovery. The American sealers have probably been equally destructive. This destruction is increasing yearly, not only in the ratio of the increase in the number of vessels, but by reason of the increased experience and knowledge of the habits of the seal by the hunters, and each vessel is able to take more seals than formerly, notwithstanding the fact that seals are becoming less each year. The route of the fur-seal after it first appears off the coast of California in January is well known; all their feeding places are known and carefully watched; indeed, the entire route of travel is carefully watched and patrolled every day that the condition of wind and waves will permit. Long practice has made

the eyesight of the hunter keen, and his knowledge of the habits of the fur-seal perfect. If but one seal attempted to follow the route usually taken by the seal herds, I doubt if it could escape capture, so thorough is the watch that is kept for them. Until recently the old bulls that inhabit the breeding rookeries have not been killed by the hunters, as the skin is of no value; now, however, a use has been found for the old bull, its skin brings the same price as any other, and it is being hunted and killed with the rest. They are found in large numbers off Yakutat and the vicinity of Middleton Island. The American schooner *Henry Dennis*, previously reported by me as taking old male seals of Yakutat, arrived at this place a few days since with over 1,600 skins, having taken about 1,000 since we spoke her on the 23d of April between the points named. Of these I am told that many were very large old males. The breeding females, pups, and young males are hunted and killed from the time they reach the coast of California until they enter Bering Sea, and the older males and old bulls that inhabit the breeding rookeries are being killed upon their feeding grounds in the Alaskan Gulf.

With this condition of affairs existing in the Pacific Ocean, it is easy to understand that no amount of protection to the fur seal in Bering Sea will prevent their becoming extinct in a few years. They must be protected in the Pacific Ocean also, or the day of the fur-seal is numbered.

The sealing on the coast of California and Oregon is done by schooners manned by white men and properly fitted for remaining at sea in all weathers. Many of these schooners are part of the Bering Sea fleet. There appears to be no fixed rate of compensation for the crews of these vessels; each owner makes his own bargain. The hunters are paid by the skin. The master, as a rule, is paid by the month at \$75 or \$100, although some receive a share of the catch. Many of the larger vessels carry two mates, who receive \$60 and \$45 per month, respectively. The cook receives \$50 or \$60, according to the size of the vessel; the hunters receiving from \$3.50 to \$4 per skin this year. The boats' crews, called boat-pullers and boat-steerers, receive \$25 to \$30 per month, or 25 cents per skin, and \$15 per month, or 60 cents per skin without monthly pay. The vessel furnishes food, and, it is said, feed the men fairly well. The hunters live in the cabin with the master. Their duty consists entirely in shooting seals. They have nothing to do with the working of the vessel and do not even take off or salt skins of the seals caught by themselves. The boat in general use by the sealers is what is known as an otter boat, as it was first used by the sea-otter hunters. It is from 18 to 24 feet in length, sharp ends, with rounded bottom, and easy, graceful lines to enable it to go through the water with as little noise as possible. The boat is fitted with two pairs of short oars or sculls and two sails. A mainsail, which is fitted to hoist and lower on the mast, and a jib. The latter impress me as being in the hunter's way and altogether inconvenient, but they are invariably used. Although they cruise under sail a great deal, the hunter has a prejudice against the centerboard, and very few boats are fitted that way. It is claimed that the centerboard makes a noise, and in approaching a sleeping seal silence is of the first importance. A boat's crew consists of three men, the hunter who stands forward, the boat-puller who sits amidships and pulls, and the boat-steerer who stands or sits near the stern of the boat facing forward and pushes and steers the boat with the sculls at the same time, as directed by the hunter by word or sign. Each boat is furnished with two shotguns,

and many in addition carry a Winchester rifle. Only the best breech-loading shotguns are used. The 10 gauge hammerless Parker is a favorite. The charge is 4 to 5 drams of powder and 21 No. 2 or 28 No. 3 buckshot in brass shells; paper shells being kept in the boat absorb moisture, swell up, and will not enter the gun.

In getting our sealing outfit in San Francisco I bought paper shells, but soon found that they would not answer the purpose, for this reason; the guns and ammunition are generally furnished by the vessel, but some hunters prefer to use their own guns and to prepare their own ammunition. The larger vessels carry six regular boats on deck, and a boat hoisted at the stern, which in moderate weather and when seals are near the vessel is used by the master. In weather suitable for sealing, all boats are lowered about 6 a. m., to give them an opportunity to separate and get well away from the vessel before the seals begin to sleep. If there is a breeze, sail is made at once; if not, oars are used, the rowers bending to their oars with a will, while the hunter stands erect in the bow of the tiny craft, his gun in hand, scanning the sea carefully in every direction, bent upon the destruction of any seal that fate might throw in his way, whether old, young, male, or female, it matters not to the hunter, he is paid so many dollars for a seal-skin, and all count. Upon leaving the vessel the boats always work to windward, as sleeping seals can only be approached from the leeward side. If under sail and a sleeper is seen sail is immediately taken in and the sculls used. The vessel follows the boats under short sail, and endeavors to keep them in sight, or at least know in what direction they are. In this they are not always successful, as the boats sometimes get separated from the vessel and are picked up by other vessels after several days' exposure, and cases are not wanting of boats having been lost entirely. Sealing boats seldom leave the vessel without a supply of food and water sufficient for a day or two. They are also fitted with a compass. Traveling or playing seals are shot at and occasionally secured, but a large majority of seals taken are killed while asleep. Seals sleep in the daytime and in good weather only. The time of day they go to sleep depends upon the state of the weather and condition of the sea then and in the immediate past. If they have been kept awake by bad weather they go to sleep earlier than they do in a long spell of good weather. Generally on a moderate day they are found sleeping if found at all from 9 to 11 o'clock in the forenoon, and until 5 or 6 o'clock in the afternoon, and sometimes later. After they are awake, if the weather is particularly fine, they remain rolling and playing on the water, and are not difficult to kill if approached very cautiously. But they are exceedingly wary, either sleeping or waking, and great skill and caution is required to secure them.

The seal lies upon his back while sleeping, with his nose out of water, his flippers folded or slightly raised, and his head to leeward; his muscles are apparently relaxed, and his head swings from side to side with each undulation of the waves. Whether he keeps his head to leeward of his body from choice or his head being the only part exposed he assumes that position in obedience to the action of the wind, I am unable to state. I am assured by all hunters that such is the fact, and that when sleeping during light baffling airs the seal changes his position with each change of the wind, no matter how slight, and without showing any signs of conscious action. As stated, the boat approaches the seal from the leeward side, rowing up to him as silently as possible. With a light breeze blowing, the seal sleeping soundly, and all the conditions favorable, the hunter can select his own distance. He approaches

within 10 to 20 yards and shoots the seal in the side of the head as it is moved from side to side by the action of the sea, and easily kills it. The boat being so near the seal and head-to, and the men all ready to "give way," only a few seconds of time are required to get the seal into the boat, and but few are lost. But the conditions are not always so favorable. The seal is a very light sleeper at best and awakes at the slightest sound, and during a long-continued spell of fine weather it becomes exceedingly wakeful, and it is with difficulty that it is approached near enough to kill. As a hunter is trying to get within shooting distance, if the sleeping seal shows signs of waking, he does not hesitate to shoot because he may possibly miss it or because the seal is so far away that if killed it may sink before the boat can reach it; he gives himself the benefit of the doubt, and shoots whenever in his mind there is a possibility of killing, no matter how remote the possibility may be. An accidental shot may kill the seal and bring to the hunter \$4. "A seal has no value until he is captured" is a common saying among the sealers. A miss costs the hunter nothing.

Neither do they confine themselves to shooting at sleeping seals, but shoot at everything that comes within possible range and remain above water long enough for the hunter to get his gun to his shoulder. If the distance is too great for the shotgun the rifle is substituted. The chances of missing entirely or only wounding the seal increase with the increased distance, and if killed the chances of the seal sinking before it can be reached by the boat also increase with the distance, on account of the greater time required to get to it. Therefore, while the percentage of loss by sinking of seals shot while sleeping is comparatively small, the loss by sinking and wounding past recovery of seals shot at in the water under all conditions is considerable. The estimated percentage of loss of seals in this way, as shown by the average of the affidavits of sealers, both white and Indian, is about $37\frac{1}{2}$ per cent. The actual percentage of loss by us by sinking and wounding of seals shot was 46 per cent. The estimated loss, as shown by the affidavits of the sealers, vary greatly, some claiming little or no loss and others admitting as high as 50 per cent. I account for these discrepancies by supposing, first, that the percentage of loss differs with different men and under different conditions. That the sealers are not close observers, and are only interested in those they secure, and that those who claim no losses do not tell the truth. We know positively by our own experience that there are losses—some seal shot by our hunters sunk immediately. On the coast of Washington sealing begins in March and is carried on in small schooners manned by Indians. They hunt in canoes, each canoe containing two men. They are propelled by sail and paddles, and while they all carry shotguns and rifles they depend almost entirely upon the spear, with which they are very expert.

The schooners take from eight to fifteen canoes on deck, according to the size of the vessel. They remain at sea as long as the weather remains suitable for sealing, and cruise within a radius of 80 or 100 miles of Cape Flattery. The Indians furnish canoes and outfits, spears, paddles, guns, ammunition, and their own food, fuel, and water, and receive two-thirds of the catch, the vessel taking one-third and buying the other two-thirds from the Indians. Some of these vessels, after the close of the sealing season off Cape Flattery, fit out for Bering Sea. The schooner *Lotta*, of about 30 tons, owned and commanded by an Indian crew, has been three seasons in Bering Sea; she carried six canoes, and made a good catch each time. Many of the Neah Bay Indians are in good circumstances, the result of successful seal hunting.

Two of the Indian hunters taken on board the *Corwin* at Neah Bay. Klahosh and his son Schuyler Colfax, while at Sitka bargained for the schooner *Ethel*, seized by this vessel in Bering Sea last year, now owned at Sitka and named the *Clara*. She is to be delivered to them on Puget Sound at the end of the present sealing season on the coast for the sum of \$750. Later in the season the Indians at Quillehute and Neah Bay go out from the land sealing in their canoes; also from the harbors on the south and west coast of Vancouver. The Vancouver Indians go out somewhat earlier than the others, for the reason that the seals come nearer the coast, and are not compelled to venture so far from shore in the treacherous weather of early spring. Two men constitute a crew for a Vancouver Island or Cape Flattery canoe. They seldom remain out over night. The Quillehute canoes carry three men, and on account of the much greater distance they are compelled to go to find seal are often kept out over night.

Many of the Vancouver Island Indians are taken out as sealing crews on the Victoria sealing schooners. The schooner *Rosie Olsen*, boarded by us May 13, had a crew consisting of Vancouver Indians. Each canoe receives \$3 for each skin taken by her, or \$1.50 per man, and a bounty of \$25 a canoe for the season. The chief or head man receives \$120 for engaging the canoes.

Owing to the later arrival of spring and pleasant weather farther north, the sealing season there begins later. At Sitka they made the first sealing trips in canoes about May 1. On account of the uncertainty of the weather they dared not venture out earlier. We saw numerous seals off the entrance to Sitka Sound early in April, and so reported to the Indians at Sitka, but even this was not enough to tempt them outside until the arrival of settled weather. At Hooniah about the middle of April we were told that hunters were out after hair-seal and fish for use on a seal and sea-otter hunting trip which they proposed to undertake some weeks later.

On our arrival at Capes Chacon and Muzon, on the north side of Dixons Entrance about May 11, we found large numbers of Indian seal-hunters from various parts of Alaska and from British Columbia and Queen Charlotte Island encamped waiting for moderate weather to begin sealing. They arrived on the ground about May 1, and said they would return to their home sometime in June, as the seal would then be gone. But three seals had been taken at Cape Chacon, and two at Cape Muzon.

A crew for a hunting canoe at Cape Chacon consists of four men. The Cape Muzon canoes, which are larger and go farther to sea in search of seals, carry six men. The hunter is in charge, and employs the other men. They use the spear but little, depending almost entirely upon the gun, and what seems most remarkable, they use the Hudson Bay musket, a single-barreled muzzle-loader of large bore, instead of the fine double-barreled breechloader in use by the white hunters and the Neah Bay and other Indians.

The white hunters use principally shotguns, but in some cases the rifle. A boat contains a hunter and a rower and a steerer. Whenever a seal comes within gunshot range, the white hunter fires at it. *L. G. Shepard, p. 188.*

Second. Deponent's views as to the history of the sealing business down to the year 1887 are best set forth in a statement prepared by him personally, and submitted to a committee of Congress on merchant marine, hereto annexed and marked A. Before submitting that statement to *C. A. Williams, p. 536.*

the committee, deponent submitted it to the firm of C. M. Lampson & Co., of London, who have been his correspondents, and in reply received from them a letter, the original of which deponent now has, and a copy of which is hereto annexed and marked B. Deponent thinks no modification of the statements made in those two communications is necessary in the light of subsequent events, excepting in respect to the prediction of the Russian authorities that in consequence of the reckless and indiscriminate killing of seals by the Americans, the Pribilof herd would emigrate to the Russian Islands. That prediction has not been verified.

WEAPONS.

(See, also, "Vessels, outfit, etc.," and "Indian hunters.")

Chas. Adair, p. 400. The first day I hunted we killed fifteen, and used rifles and shotguns, but we used the shotguns mostly.

Peter Anderson, p. 313. We used the shotgun and rifle exclusively in the boats I was in.

Chas. Avery, p. 218. We use rifles and shotguns.

Q. Do you generally shoot seals with a rifle or shotgun, and if the latter, with buckshot or fine shot?—*A.* We use both, but principally with a shotgun loaded with No. 2 shot, heavy buckshot.

Johnny Baronovitch, p. 276. Always used the shotgun for taking seal.

Chas. Campbell, p. 257. The Parker shotgun is used by me exclusively.

Peter Church, p. 257. Have always used shotgun and rifle.

Q. Do you generally shoot seals with a rifle, or a shotgun?—*A.* Mostly with a shotgun.

Daniel Claussen, p. 412. *Q.* What shot do you use, buckshot or fine shot?—*A.* Buckshot.

Jno. C. Clement, p. 258. Have caught seal all along the coast from Cape Flattery to the Pribilof Islands, using the shotgun exclusively.

The hunters used both shotguns and rifles. They used a rifle to shoot breaching seals, and a shotgun to shoot sleepers and tramps. The shotgun is not as fatal as the rifle, but wounds a great many more.

Peter Collins, p. 413.

John Dalton, p. 418. We used shotguns all the time; we had rifles, but we did not use them.

Hooniah Dick, p. 258. Always use the shotgun and rifle for taking seal.

George Dishow, p. 323. I use a shotgun exclusively for taking seal.
* * * I use the Parker shotgun.

Q. Do you generally shoot seals with a rifle or a shotgun?—A. Most all hunters use shotguns, but I use a rifle with .38-.40 caliber. *Luther T. Franklin, p. 426.*

We used both shotguns and spears, as occasion required. When we see plenty of seals in sight we use the spear, and when we see only one or two we use the shotgun. *Thos. Frazer, p. 365.*

Q. Do you generally shoot seals with a rifle or a shotgun; and if the latter, with buckshot or fine shot?—A. We shoot nearly all of them with a shotgun, using buckshot. *Edward W. Funcke, p. 428.*

Have used shotgun and rifle in taking seal. *Gonastut, p. 238.*

Have always used shotgun and rifle for taking seal. *Jas. Gondowen, p. 259.*

Our hunters used rifles and shotguns. *Geo. Grady, p. 433.*

The shotgun and rifle were both used. *Jas. Griffin, p. 433.*

We used shotguns and rifles, using the shotguns mostly. *Jos. Grymes, p. 434.*

Q. Are seals generally shot with a rifle or shotgun with buckshot?—A. Both. *Chas. H. Hagman, p. 436.*

Q. Are they generally shot with a rifle or shotgun?—A. A shotgun exclusively, you might say. *H. Harmsen, p. 443.*

The hunters used shotguns and rifles. *Jas. Harrison, p. 326.*

Q. Do you generally shoot seals with a rifle or shotgun, and if the latter, with buckshot or fine shot?—A. We generally shoot the seals with buckshot if we are close enough; if not, we shoot them with a rifle. *Wm. Henson, p. 484.*

I use a shotgun when I am hunting seal and a rifle for otter hunting. I hunt with a No. 8 bore shotgun, and use No. 1 shot. *Wm. Hermann, p. 446.*

I now use shotgun exclusively for taking seal. *E. Hofstad, p. 260.*

Q. Do you generally shoot seals with a rifle or shotgun; and if the latter, with buckshot or fine shot?—A. Mostly with buckshot and a shotgun. *Andrew J. Hoffman, p. 447.*

Q. Are seals generally shot with a rifle or shotgun?—A. Both rifle and shotgun; mostly shotguns. *Gustave Isaacson, p. 440.*

Q. Are these seals generally shot with a rifle or a shotgun?—A. I generally shoot them with a rifle myself, but they are generally shot with a shotgun, from what I hear. *Frank Johnson, p. 441.*

J. Johnson, p. 331. Have always used a shotgun for taking seals.

Jack Johnson, p. 282. And have hunted fur-seal in Queen Charlotte Sound, using shotgun exclusively.

In former times the seals were shot with rifles, and only had one small hole through which the bullet entered. Now shotguns are used, and the skins are frequently so perforated that they look more like a sieve than a skin, which reduces their commercial value over 50 per cent.

Wm. H. Long, p. 457. I used both shotguns and rifles.

Q. Do you generally shoot seals with a rifle or a shotgun?—A. A shotgun principally.

Chas. Lutjens, p. 459. Q. What kind of shot do you use, buckshot or fine shot?—A. Buckshot.

J. D. McDonald, p. 266. Have always used the shotgun for sealing.

The hunters shot with rifles and used cartridges and shot at all kinds they saw. They also had double-barrel shotguns and made their own cartridges.

Wm. MoIsaac, p. 461.

Q. Are seals generally shot with a rifle or shotgun?—A. They used to shoot them with rifles; now they shoot them all with shotguns.

Alex. McLean, p. 438.

Q. Are seals generally shot with a rifle or shotgun?—A. With a shotgun. Some with a rifle; mostly with a shotgun.

Dan'l. McLean, p. 444.

Edw'd Maitland, p. 284. Always used the shotgun for taking seal.

Patrick Maroney, p. 464. We used shotguns with No. 12 shot. When we had to shoot at long range we used rifles.

Chas. Martin, p. 297. I use the shotgun for taking seal.

Amos Mill, p. 285. Have always used the shotgun for taking seal.

G. E. Miner, p. 466. Shotgun and rifle have been used by me for taking seal.

Frank Moreau, p. 467. Q. Do you use buckshot or fine shot?—A. Buckshot.

Jno. Morris, p. 340. We used rifles and shotguns in hunting the seals.

Nashton, p. 298. Have always used spear and shotgun for taking seal.

Dan. Nathlan, p. 286. Have always used the shotgun for taking seal.

We hunt sometimes with a shotgun, and sometimes with a rifle. Breaching seals we shoot with a rifle, and sleeping seals with a shotgun. *Niles Nelson, p. 469.*

Have used both rifle and shotgun in killing seals, but now use shotgun only, having found that for same number of shots more seals are taken therewith. *W. Roberts, p. 241.*

On the voyage of the *City of San Diego*, which lasted about eight months, we got about 1,900 seals. The hunters had rifles and shotguns, but as we entered the Bering Sea the revenue-cutter *Corwin* took away our rifles and left us the shotguns. *Adolphus Sayers, p. 473.*

Shotgun and rifle are used by me for taking seal. *Jack Shucky, p. 289.*

Always use shotgun and rifle. *Aaron Simson, p. 290.*

I have always used a shotgun for taking seal. *Geo. Skultka, p. 290.*

Always used a shotgun exclusively for taking seal. *Fred Smith, p. 349.*

We hunted with shotguns and rifles, and killed most of the seals when they were asleep on the water. *E. W. Soron, p. 479.*

I use the shotgun exclusively for taking seal. *Joshua Stickland, p. 350.*

Q. Do you generally shoot seals with a rifle or a shotgun, and if the latter, with buckshot or fine shot?—A. I generally shoot them with a shotgun loaded with buckshot if asleep; if awake we generally shoot them with a rifle. *Gustave Sundvall, p. 481.*

The white hunters use shotguns altogether for taking seal. *W. Thomas, p. 485.*

We used mostly shotguns in killing seals. We carried rifles but did not use them much. *Adolph W. Thompson, p. 486.*

Have always used a shotgun to take seal. *Peter Trearsheit, p. 271.*

I have always used the shotgun for taking seal. *Geo. Usher, p. 291.*

I use shotgun and rifle to take seal. *Rudolph Walton, p. 272.*

Have always used the shotgun for killing seal. *Fred. Wilson, p. 301.*

When I was a boy, bought a shotgun from the Hudson Bay Company at Fort Simpson and have always used the shotgun for taking seal. *Hastings Yethnow, p. 302.*

We only used rifles. *Geo. Zammitt, p. 507.*

RESULTS.

INDISCRIMINATE SLAUGHTER.

It is impossible to distinguish the sex of a seal in the water, unless it is an old bull. I am unable to state anything as to the proportion of females taken, but the seal-hunter shoots every kind of seal he sees.

C. A. Abbey, p. 187.

Peter Brown, p. 378. I can not tell the difference between the male and female seal while in the water, except it be an old bull.

I shoot all seal that come near the canoe and use no discrimination, as I can not distinguish a young bull from a cow in the water. All hunters shoot everything that comes near their boats.

Akatoo, p. 237.

A. B. Alexander, p. 355. No discrimination is or can be used; everything is game that comes within range of the hunter's weapon.

H. Andrieus, p. 314. It is impossible to distinguish the male from the female at a distance in the water.

Charles Avery, p. 218. It is not possible to distinguish sex when seals are swimming, and killing is indiscriminate.

Adam Ayonkee, p. 255. The sex of seal can not be told in the water. I shoot everything that comes near the boat.

I used no discrimination, but kill everything that came near the boat in shape of a seal. Never stopped to ask if it is female or not. A few old bulls have been taken by me.

Johnny Baronovitch, p. 276.

Maurice Bates, p. 277. Everything that comes near the boat in shape of a seal is shot, regardless of sex.

Wilton C. Bennett, p. 356. The sex of the seal can not be told in the water; I shoot everything that comes near the boat.

Edwd. Benson, p. 277. We kill everything that comes near the boat, and use no discrimination, but shoot them regardless of sex.

The sex of the seal can not be told in the water unless it be an old bull, which is told by its size. I use no discrimination in hunting, but kill everything that comes near.

Martin Benson, p. 405.

Bernhardt Bleidner, p. 315. It is almost impossible to distinguish the female seals from the male in the water, unless it is an old bull.

It is not possible to make any distinction between males (other than large bulls) and females of the fur-seal species at sea, and there is none attempted. Full-powered bulls are, however, readily recognized at sea by their much larger size and darker fur; they are seldom taken, their pelts being comparatively valueless. The slaughter is therefore indiscriminate, the object being to secure all the skins possible. *J. A. Bradley, p. 227.*

We used to shoot at anything we ran across, and got about a third of what we killed or wounded. I do not know how many miles off the seal islands we were when we caught them, as I did not know the distances. *Thomas Bradley, p. 406.*

It is not easy to tell a bull seal from a cow, or either from a year-old pup, when they are in the water, and the hunters must shoot at all the seals they see. If they get them they are fortunate, for at the best many are lost. Some hunters rarely miss a seal they fire at, but many are wounded, and a seal with a charge of bullets and buckshot in him must be in very vigorous health to recover. Some hunters never miss a seal during the season, but if others get one out of four they wound they are doing well. *William Brennan, p. 360.*

It is practically impossible to distinguish the age or sex of seals in the water while approaching them while at a reasonable gunshot distance from them excepting in the case of old bulls. *Henry Brown, p. 318.*

Use no discrimination, but kill all seal that come near the boat. The best way to shoot seal to secure them: Shoot them in the back of the head when they are asleep with their noses under water. *Peter Brown, p. 313.*

I can not distinguish male seals from female at a distance in the water, unless it be an old bull with a long wig. *Landis Callapa, p. 379.*

Can not distinguish the sex of the seal in the water except in the case of an old bull, which is told by its size. Use no discrimination, but kill everything that comes near the boat in shape of a seal. *Charles Campbell, p. 256.*

There is no way of distinguishing the sex of fur-seals (except large bulls), in the water at sea, nor do hunters ever make any effort to do so, but on the contrary kill all seals they can indiscriminately. *Vassili Chickinoff et al., p. 219.*

Sex of the seal can not be told in the water unless it be an old bull. All seal are shot that come near the boat, regardless of sex. *Simeon Chin-koo-tin, p. 256.*

It is impossible to distinguish the sex of the fur-seal in the water at sea, and no effort was made to do so. We killed all fur-seals indiscriminately. *Julius Christiansen, p. 219.*

Peter Church, p. 257. The sex of the seal can not be distinguished in the water. I shoot everything that comes near enough.

Jas. Claplanboo, p. 382. I am unable to tell a male seal from a female while in the water, unless it be an old bull with a long wig.

The sex can not be told in the water, and all are shot that come near the boat. No discrimination is used; hunters kill everything they see.
Jno. C. Clement, p. 258.

In pelagic sealing no distinction is made by hunters as to the sex of the seals, the killing being done indiscriminately. It is not possible to distinguish between the male and female seals at sea even if a hunter so desired, and this is the reason why pelagic seal hunting will soon result in the total extermination of the species.
M. Cohen, p. 225.

Peter Collins, p. 413. The hunters will kill any seals that come along, it being impossible to tell the sex in the water.

All seal are killed that come near the canoe, whether it is male or female. I make no difference. In former years there were lots of seal, but now there are very few. Too many schooners hunting them all the time in the water, killing the mother seals as well as others.
Charlie Dahltlin, p. 278.

Alfred Dardean, p. 322. We tried to shoot them while asleep, but shot all that came in our way.

Use no discrimination in killing seal, but shoot everything that comes near the boat in shape of a seal. Hunters shoot seal in the most exposed part of the body.
Geo. Dishow, p. 323.

Peter Duffy, p. 421. I can not tell the sex of the seal in the water.

I never examine them to know whether they are men or women seal. I can not tell the difference in the water, and shoot everything without knowing whether they are men or women.
Echon, p. 280.

While there is some difference in the appearance of the female and and old male seals, I do not think it would be possible for the hunters to tell that difference in the sea at any great distance.
M. C. Erskine, p. 422.

Chief Frank, p. 280. Everything in shape of seal that comes near the boat is killed.

I can not tell the sex of a seal in the water; use no discrimination, but kill everything that comes near the boat.
Luke Frank, p. 294.

There is no way by which hunters can distinguish sex while the seals are in the water, nor do we aim to do so; the killing is always done in an indiscriminate way. *Thos. Frazer, p. 365.*

I could not tell whether a seal was a male or female while it was in the water, unless it was an old bull. *Wm. Frazer, p. 427.*

There is no way that I know of to distinguish the sex of a seal when it is in the water. No attempt is made to discriminate the sex so as to kill only males. *F. F. Feeny, p. 220.*

Can not distinguish the sex of seal in the water, but spear everything that comes near the boat, regardless of sex. *Chad. George, p. 365.*

I have never examined the seal as to sex. I shoot everything that comes near the boat and use no discrimination whatever. *Chas. Gibson, p. 281.*

I kill everything that comes near the boat and use no discrimination, as the sex can not be told in the water, except it be an old bull, which is told by its size. *Gonastut, p. 238.*

Can not distinguish sex of seal in the water. Hunters use no discrimination, and killed everything that comes near the boat. *Jas. Gondowen, p. 259.*

We have no way of distinguishing fur-seals in the water at sea, as to whether males or females, and do not try to do so; but kill all we can indiscriminately. *Nicoli Gregoroff et al., p. 234.*

Every seal is shot that comes near the boat, regardless of sex; hunters use no discrimination. *Jas. Griffin, p. 432.*

Among all other fur-seals at sea no distinction is possible and none is attempted. The killing is indiscriminate, the object being to secure all the pelts possible. Bulls are, however, readily recognized at sea by their larger size and darker fur. *A. J. Gould, p. 231.*

I always shoot everything that comes near the boat; can not tell the sex in the water. *Henry Haldane, p. 281.*

I use no discrimination in sealing, but shoot everything that comes near the boat, regardless of sex. *Martin Hannon, p. 445.*

I can't tell a male from a female while in the water, at a distance. *Jas. Harrison, p. 326.*

My experience has been that the vessels employed in hunting seals shoot, indiscriminately, pups, male and female seals, regardless of age or sex; and even should sealers wish to discriminate in the killing it would not be possible for them to do so. My study of them in a long ex-

perience has not enabled me to positively distinguish the sex of a seal while in the water. It is the custom to pay seal-hunters per skins taken; hence it is the object of the hunters to secure as many as possible, without reference to sex, age, or condition. While hunting they use small rowboats, with two or three men in each boat armed with shotgun and rifle, chiefly the former, and it would be simply impossible for the master or owners, even should they desire it, to supervise ten or a dozen hunters as to the killing of any particular sex or kind.

Wm. Hermann, p. 446.

It is difficult to tell the sex of a seal which you shoot at in the water, but you can tell a young seal from an old seal.

It is impossible to distinguish positively between females and males (other than large bulls) in the water at sea, and no effort is made to do so. Full-powered bulls are readily recognized by their great bulk and darker fur. The killing of fur-seals is therefore absolutely indiscriminate, as the object is to secure all the skins possible, irrespective of sex, age, or condition.

Norman Hodgson, p. 367.

Hunters use no discrimination in shooting seal, but kill everything that comes near the boat. They could not discriminate if they wanted to, as the sex can not be told in the water.

O. Holm, p. 368.

The sex of seal can not be distinguished in the water, unless it be an old bull. No discrimination is used in taking seal; everything that comes near the boat is killed.

E. Hofstad, p. 260.

We try to take the seals when asleep on the waters, but the hunters are usually paid a certain sum for each seal taken, and they try to kill everything, without reference to age, sex, or condition.

Jas. Jamieson, p. 321.

I use no discrimination in killing seal, but kill everything that comes near the boat in the shape of a seal. Always shoot seal in the back of the head, if possible. Sometimes seal are shot in the shoulders and wound them; then they can not get away.

J. Johnson, p. 331.

Everything in the shape of a seal that comes near the boat is shot.

Jack Johnson, p. 282.

I am unable to distinguish a male seal from a female seal while at a distance in the water.

Selwish Johnson, p. 388.

I shoot everything in shape of a seal that comes near the boat, and use no discrimination.

Johnnie Johnstin, p. 282.

The sex of the seal can not be told in the water unless in the case of an old bull, which is told by its size. We use no discrimination in shooting seal. Everything is killed that comes near the boat, regardless of sex.

Philip Kashevaroff, p. 262.

We can not tell the difference between a male and a female in the water, but kill everything that comes near the boat. *King Kaskwa, p. 295.*

The sex of the seal can not be distinguished in the water. Everything is shot that comes near the boat, regardless of sex. *Mike Kethusduck, p. 262.*

All killing of seals in the water must of necessity be indiscriminate slaughter, as it is impossible to tell the sex or the exact age of a seal until it has been taken into the boat, whereas on land careful discrimination can be made. *Francis R. King-Hall, p. 333.*

Hunters use no discrimination in hunting seal, but shoot everything that comes near the boat. *Kinkooga, p. 240.*

Hunters always kill all seal that come near the boat, regardless of sex. *C. Klananeck, p. 263.*

Female and male seals look the same in water, unless it be an old bull, which I can tell by its bigness, and I shoot everything that comes near the canoe. *Jas. Klonacket, p. 283.*

I kill everything that comes near the canoe, regardless of sex. *Robert Kooko, p. 296.*

I always kill every seal that comes near the boat; hunters use no discrimination. *Jno. Kowineet, p. 264.*

My experience is that about four-fifths of all fur-seals killed in the water are lost. I can not tell a male from a female in the water, and when killing them never make any effort to do so, as the object is to get all the skins possible. *Olaf Kvam, p. 236.*

Have never killed but few old bulls in my life. The only seal that can be distinguished in the water is the old bull, which can be told by its size. Everything in shape of seal that comes near the boat are killed if possible, regardless of sex. *George Lacheek, p. 265.*

We can not distinguish between the sexes of fur seals in the water at sea, nor do we try to. On the contrary, everything in sight is taken if possible, except large bulls, whose skins are worthless. *E. L. Lawson, p. 221.*

It is impossible to distinguish between males and females of the fur-seal species in the water at sea, excepting large bulls, and no effort is made to do so. The object is to get all the marketable skins possible, and the killing is consequently indiscriminate. The pelts of large bulls, whose fur is coarse and of little value, and of yearlings of both sexes, whose skins are too small, not being strictly "marketable" skins, they were not taken. *Jas. E. Lennan, p. 370.*

Of late years most of the catches of northwest skins are sold at a certain price per skin, without particular examination. The dealers, knowing the location from which the skins are obtained, make an average price, and owners and hunters are, therefore, less particular than they were in former years as to the class of animals they capture. They kill everything they see without regard to age or sex, their only object being to swell the total number of the catch to the highest possible figure.

I am unable to tell a male seal from a female while in the water, unless it be an old bull with a long wig.

Formerly, we used to hunt seals for food and
Jas. Lighthouse, p. 389. sold the skins to traders for \$2 or \$3 each, but for the last few years we have been getting big prices for the skins and we catch all we can without regard to size or sex. Ten years ago I seldom saw a white hunter shooting seals, but now the sea is full of them and they are banging away all the time, getting some but killing and wounding a great many they do not get.

But of course you could not tell when you shot a seal lying asleep whether it was a male or female. We shoot at all the seals we get a chance, but it is only the ones that we find asleep that we catch.
Caleb Lindahl, p. 456.

It is impossible to distinguish the sex of fur seals at sea (excepting large bulls), and no effort is made to do so, the object being to secure all the skins possible; hence the killing is indiscriminate.
E. W. Littlejohn, p. 457.

Wm. H. Long, p. 458. It is impossible to tell the sex of a seal in the water.

Geo. McAlpine, p. 266. Everything was killed that came near the boat; we did not use any discrimination.

The sex can not be distinguished in the water unless it be the case of an old bull, which is distinguished by its size.
J. D. McDonald, p. 266. Everything is killed in the shape of a seal that comes near the boat.

When we had fine weather we were out in the boats killing all the seals we could get. We could not hunt in rough weather.
Wm. McIsaac, p. 461.

Sex of seal can not be told in the water. We use no discrimination and kill all seal that come near the boat. Seal are not shot in any particular place; shoot them in the head if possible; if not, in the body.
Jas. McKeen, p. 267.

It makes no difference if a seal is a male or female; we shoot everything that comes near enough.
Edward. Maitland, p. 284.

I know it to be the custom of seal hunters to shoot seals at sea when they are at rest upon the surface of the water, and that those generally obtained are females John Malowansky, p. 198.
and constitute but a very small portion of those killed and lost.

Everything that comes near the boat in shape of a seal is shot; I can not tell the sex of a seal till after it is dead. Frederick Mason, p. 284.

We hunted with shotguns and shot them mostly when they were asleep on the water, or any chance we could get. I was a boat puller, and the hunters shot at everything in sight. Henry Mason, p. 465.

We generally tried to kill them while asleep in the water, but fired at everything that came around us. Thorwal Mathasan, p. 339.

I shoot all seal that come near the boat, regardless of sex; have never killed but two old bulls in my life; I have killed a few young bulls, and plenty of yearling seal; never examined them as to sex. Amos Mill, p. 285.

I use no discrimination in shooting seals; shoot everything that comes near the boat, and all other hunters do the same. G. E. Miner, p. 466.

Q. If awake, do you shoot them while breaching?—A. Yes, sir; we shoot at them anywhere, either while they are breaching, or heads up or any way. Frank Moreau, p. 468.

We shot at everything in sight. We killed more females than males, and we lost a good many that we killed. Eddie Morehead, p. 467.

Shoot everything that comes near the boat in shape of a seal, and use no discrimination. Matthew Morris, p. 286.

The sex of the seal can not be told in the water. Hunters use no discrimination, but kill everything they can. Nashtou, p. 298.

I can not tell a male from a female in the water, and it makes no difference; I shoot everything that comes near the canoe in shape of a seal. Smith Natch, p. 298.

We shoot everything that comes near the canoe, regardless of sex. The sex can not be told in the water unless it be an old bull. Dan Nathlan, p. 286.

Everything is killed that comes near the canoe in shape of a seal. We can not tell a male from a female in the water. Jos. Neishkaitk, p. 289.

I can not tell the age or sex of seals in the water. Niles Nelson, p. 469.

I can not tell the difference between a male and female seal in the water, and I shoot every seal that comes near the canoe.
Ntkla-ah, p. 288.

Sex can not be distinguished while the seals are in the water, nor do the hunters try to do so, for they kill everything they can shoot.
Nelson T. Oliver, p. 372.

Osly, p. 39. I am unable to tell the sex of the seal while it is in the water, unless it be an old bull with a long wig.

I never have captured any full-grown cows on the coast that were barren, and seldom see any old bulls and can not tell the sex of a seal in the water.
Wilson Parker, p. 392.

It is impossible to distinguish the male seal from the female when they are in the water at a reasonable gunshot distance.
Chas. Peterson, p. 345.

Yearlings are rarely taken in North Pacific. The age or sex of a seal in the water can not be distinguished, except that when close the apparent size is an indication of age.
W. Roberts, p. 241.

W. Roberts, p. 242. No discrimination is shown in taking seal. The object is to take every one possible.

I use a shotgun to hunt for seal. Have lost very few seal, as I always shoot them near the boat. Everything in shape of a seal that comes near the boat is killed. I use no discrimination.
Rondtus, p. 242.

Everything in the shape of a seal that comes near the boat is shot. Hunters use no discrimination, but kill everything that puts its head above water.
Abel Ryan, p. 299.

It is impossible to distinguish a male from a female seal in the water, except in the case of a very old bull, when his size distinguishes him. Therefore open-sea sealing is entirely indiscriminate as to sex or age.
L. G. Shepard, p. 189.

Seal hunters shoot all seals that they can, because they are paid so much a skin, whether large or small, male or female. It is impossible to distinguish the sex of the seal in the water, except the old ones.
Wm. Short, p. 348.

All seal are killed that come near the boat. I never stop to consider whether it is a male or female, but kill it off if I can.
Jack Shucky, p. 289.

I can not tell the sex of a seal in the water, but shoot everything that comes near the boat in shape of a seal.
Martin Singay, p. 348.

Hunters use no discrimination, but shoot everything that comes near them. Their sex can not be told unless in the case of an old bull, which is distinguishable by its size. *Jack Sitka, p. 268.*

The sex of the seal can not be told in the water. I kill everything that comes near my canoe in shape of a seal, and all other hunters do the same. *Thomas Skowl, p. 300.*

Always shoot everything that comes near the boat in shape of a seal, regardless of sex. *Geo. Skultka, p. 290.*

My orders were to kill them indiscriminately, everything I ran across. It is impossible to tell a female from a male in the water, unless it is an old bull. *Jas. Sloan, p. 477.*

Hunters use no discrimination, but shoot everything that comes near the boat. *Fred Smith, p. 349.*

It is impossible to distinguish between male and female seals at sea, even if the hunters so desired, except in the case of full-powered bulls, when they are readily recognized by their greatly superior size. Large bulls are rarely taken. No distinction is thought of by pelagic seal hunters, and the killing is done indiscriminately, the object being to secure as many skins as possible. *Jno. W. Smith, p. 233.*

Sex of seal can not be distinguished in the water. We use no discrimination in hunting; shoot every seal that comes near the boat. Seal are most always shot in the head if it is possible; if not they are shot in the body where exposed. *Wm. H. Smith, p. 478.*

I can not tell the sex of the seal in the water unless he is an old bull. A hunter will blaze away at anything he sees in the water. *E. W. Soron, p. 479.*

Hunters use no discrimination, but shoot everything in shape of a seal that comes near the boat. *Joshua Stickland, p. 350.*

Second. The sexes can not be distinguished in the water, except old males, and both sexes and all sizes are killed indiscriminately. *Z. L. Tanner, p. 374*

All seals are killed that come near the boat, regardless of their sex. I never look to see whether I have killed a male or female seal until I have the seal dead in the boat. *M. Thlkahdaynahkee, p. 269.*

Hunters use no discrimination in killing seal, but kill everything that comes near the boat, regardless of sex. *W. Thomas, p. 485.*

The sex of the seal can not be told in the water when hunting. We use no discrimination, but kill everything in the shape of a seal that comes near the boat. *Charlie Tlaksatan, p. 270.*

Jno. C. Tolman, p. 222. Hunters use no discrimination in taking seal, but kill everything that pokes its head out of water near the boat.

The sex of the seal can not be told in the water. Hunters use no discrimination and everything in the shape of a seal that comes near the boat is killed.
Peter Trearsheit, p. 271.

I have observed and learned that crews of vessels engaged in sealing kill all kinds without regard to age, sex, or condition. I have seen among the skins, taken from vessels we have seized, bull skins which I was told by experts were comparatively worthless, others so small as to be classed as pup skins.
Francis Tuttle, p. 487.

Sex of seal can not be distinguished in the water, except in the case of an old bull, which can be told by its size. No discrimination is used in taking seal; everything that comes near the boat is shot at.
Jas. Unatajim, p. 271.

Geo. Usher, p. 291. I always shoot everything that comes near the boat, regardless of sex. We use no discrimination.

Sex of seal can not be distinguished in the water. No discrimination is used in seal hunting; all are killed that come near.
Rudolph Walton, p. 272.

The sex of seal of same age can not be distinguished in the water. The only seal that can be distinguished is an old bull. We use no discrimination in seal hunting; everything is killed that comes near the boat. Pelagic hunters have become so plentiful and seals have become so wild that we are obliged to take long shots at them.
Charlie Wank, p. 273.

The sex of a seal cannot be told in the water except it is an old bull. Hunters use no discrimination, but kill everything that comes near the boat.
P. S. Weittenhiller, p. 274.

Our purpose and practice was to take all the seals we could get, regardless of their age or sex, without any discrimination whatever.
Michael White, p. 490.

Can not tell the difference between a male and a female in the water. Kill everything that comes near the boat, regardless of sex.
Billy Williams, p. 300.

Everything in shape of a seal that comes near the boat is shot. I can't tell the difference between a young cow seal.
Fred Wilson, p. 301.

The seals are getting wild and hard to catch. There are a great many green hands in the business. We shot at everything that came along. We were getting 50 cents for every skin obtained. Our boats went 30 and 40 miles from the schooner. Sometimes they would leave in the morning at 5 and not return until next day at 4 or 5 in the evening.
John Woodruff, p. 506.

The sex of seal can not be told in the water. No discrimination is used in seal hunting; all seal are killed that come near the boat. The only seal that can be distinguished in the water is an old bull. *Michael Wooskoot, p. 274.*

I can not distinguish the sex of a seal in the water, but kill every seal that comes near the canoe, if possible. *Billy Yeltachy, p. 302.*

I can not tell the sex of a seal in the water, and use no discrimination, but kill everything that comes near my canoe in shape of a seal. *Hastings Yethnow, p. 302.*

We use no discrimination in killing seal, but shoot everything that comes near the boat. *Alf. Yohansen p. 369.*

What seals we have seen this year are very wild and hard to get at. The cause of their being wild is the indiscriminate shooting of them in the water.

I use no discrimination and kill everything that comes near the boat in shape of a seal. *Paul Young, p. 292.*

I can not tell the difference between a male and female in the water. Use no discrimination, but shoot everything that comes near the boat. *Walker Young, p. 303.*

We fired at all the seals we could, regardless of their sex. We got one out of every six or seven we shot at or killed. *Geo. Zammatt, p. 507.*

ATTITUDE OF SEALS WHEN AIMED AT.

The seals are shot under any conditions in which they may be found, provided they are in range. *A. B. Alexander, p. 355.*

Q. Are the seals you shoot at mostly asleep on the water or awake; and, if awake, do you shoot at them while breaching?—A. Mostly they are asleep, especially while they have their pups; but there is a good deal of shooting done while they are awake and breaching, but with less chance of getting them, to be sure. *Geo. Ball, p. 482.*

We always tried to slip up on them and shoot them while they were asleep. *Bernhardt Bleidner, p. 315.*

Q. Are the seals you shoot at mostly asleep on the water or awake?—A. Asleep.

Q. If awake, do you shoot at them while breaching?—A. We shoot any we can get. *Daniel Claussen, p. 412.*

Q. Are the seals you shoot at mostly asleep on the water or awake?—A. Mostly asleep.

Q. Do you shoot at them while breaching?—A. Yes, sir. *Luther T. Franklin, p. 425.*

Q. Are the seals you shoot at mostly asleep on the water or awake; and if awake, do you shoot at them while breaching?
Edward W. Funcke, p. 428. A. Yes; we shoot at them while they are breaching, but if we get a shot while they are asleep we shoot them.

Thos. Gibson, p. 432. We used rifles and shotguns, and shot them when feeding or asleep on the water.

We seek to shoot the seals while they are asleep on the water, because a seal shot while breaching is more likely to be lost.
Arthur Griffin, p. 326.

Q. Are the seals shot at asleep on the water or awake?—A. Both.
Chas. G. Hagman, p. 435. Q. Do you ever shoot at a seal when awake or breaching?—A. Yes.

H. Harmsen, p. 442. Q. Are the seals shot at asleep on the water or awake, usually?—A. Most asleep.

Q. Are the seals you shoot at mostly asleep on the water or awake; and if awake, do you shoot at them while breaching?
Wm. Henson, p. 484. A. We take the sleepers first, and we also shoot at them while breaching.

Q. Are the seals you shoot at mostly asleep on the water or awake? Do you shoot at them while breaching?
Andrew J. Hoffman, p. 447. A. About 50 per cent of them are asleep, that is, according to what are shot at, and we also shoot at them while breaching.

Q. Are the seals shot at asleep on the water or awake generally?
Gustave Isaacson, p. 439. A. Mostly asleep. Very often they are shot at while traveling, breaching.

Frank Johnson, p. 441. Q. Are the seals shot at asleep on the water or awake, usually?—A. Principally asleep.

Jas. Kiernan, p. 450. Many are shot while asleep; some while breaching, but such are more difficult to kill.

Chas. Lutjens, p. 459. Q. Are the seals you shoot at mostly asleep on the water or awake?—A. Asleep.

Q. Do you shoot at them while breaching?—A. We shoot at them anyway we find them.

Q. Are the seals shot at asleep on the water or awake?—A. With me they are principally asleep on the water. Of late years they shoot them a great deal when they are awake.
Alex. McLean, p. 436.

Q. Do you shoot at seals when they are awake or breaching?
Alex. McLean, p. 437. A. Yes, sir; when they come within range.

Q. Are the seals shot at asleep on the water or awake, usually?—A. Most asleep. *Daniel McLean, p. 444.*

Mostly all the seals we shot at were sleepers. *Patrick Maroney, p. 464.*

Q. Are the seals you shoot at mostly asleep on the water or awake?—A. They are mostly asleep. *Frank Moreau, p. 468.*

We try to kill theseal while sleeping on the water, but also shoot at them when they are breaching. *Edwin P. Porter, p. 347.*

Q. Are the seals you shoot at mostly asleep on the water or awake, and if awake, do you shoot at them while breaching?—A. Yes, sir; if they are breaching I generally shoot at them, but if they are sleeping I generally take them at first while asleep, of course. *Gustave Sundvall, p. 481.*

The hunter tries to shoot the seals in the head or through the heart. *John A. Swain, p. 351.*

The most of the seals that we killed were asleep on the water. *Adolph N. Thompson, p. 486.*

Hunters always shoot a seal in the head when they can do so. If we can't shoot them in the head we shoot them in the chest if possible. *Alf. Yohansen, p. 369.*

PERCENTAGE LOST.—GENERAL STATEMENTS.

We had a row on board because some of the hunters were green hands and the men would not go out in the boats with them. They took the hunters out of our boats and put them into the other boats that made no catch, and then we kicked that they should put the green hunters into our boats, because everything they would shoot would sink on them and were lost. *Chas. Adair, p. 400.*

The destructiveness to seal life by pelagic hunting is very great. The majority of seals killed are pregnant females, so that two lives are often sacrificed in securing one skin. This is true whether firearms or spears are used. In addition to this, the number of skins marketed does not represent the number actually destroyed, for many are killed that are not secured, while others, though fatally wounded, still possess strength enough to escape their pursuers. *A. B. Alexander, p. 356.*

Of those killed, the number saved varies with the skill of the hunters. Last year we lost very few. *Chas. Avery, p. 218.*

A very few are lost when shot with the shot-gun, as we shoot them close to the boat. *Johnny Baronovitch, p. 276.*

In hunting with the spear we don't lose many that we hit. I never hunted with guns. *Peter Brown, p. 377.*

Chas. Campbell, p. 256. Experienced hunters lose very few seal that are shot, but beginners lose a great number.

The Indian hunters, when they used spears, saved nearly every one they struck. It is my observation and experience that an Indian, or a white hunter, unless very expert, will kill and destroy many times more than he will save, if he uses firearms. It is our object to take them when asleep on the water, and any attempt to capture a breaching seal generally ends in failure.

As to the percentage of seals lost in pelagic sealing where the use of firearms is employed, I am not able to state of my own observation, but from conversations with those engaged in the business I am of the opinion that the number secured is small compared with those lost in attempts to secure them.

None were lost when the spear was used. When the shotgun is used sometimes they are lost. A few more are lost when rifle is used.

Were I engaged at present in sealing I should prefer the spear to the rifle or shotgun, and I believe its use is not near so destructive to seal life.

Geo. Dishow, p. 323. Old hunters lose but very few seal, but beginners lose a great many.

The Indians have always hunted seal with a shotgun, and I am sorry to say that they have killed a great many more than they secured.

Ellabush, p. 385. In hunting with the spear I get almost all the seals that I hit.

From the ammunition we furnished them I learned that some of the hunters on an average used from two to three rounds of shot to a seal, while others used from forty to fifty rounds.

Chief Frank, p. 280. Have always used the shotgun for killing seal, and but very few are lost.

Chad. George, p. 365. Have always used spear for taking seal, and but very few are lost.

I have heard the hunters say that they lost more seals than they got. I also heard them say if they got all the seals they shot at they would have been home three months ahead of time, with a great deal larger catch.

A very large number of shots are thrown away. In the case of the *Thistle*, in her voyage of 1891, she brought in but 9 skins, while her hunters had fired away 260 pounds of shot. She had poor hunters.

That in pelagic sealing twice as many seals are lost as are captured. *W. P. Griffith, p. 260.*

In the Bering Sea we killed both male and female, but I do not know the proportion of one to the other. *Jas. Harrison, p. 326.*

Always shoot the seal close to the boat and rarely lose one, but when shot at with the rifle I lose a good many. *Hooniah Dick, p. 258.*

I have always used spears in hunting seals, and hit one that I did not get, until in 1891, which year, and the only one, I went to Bering Sea and used the shotgun part of the time. I found in the use of the shotgun that a great many of the seals that were killed or wounded were lost. *Alfred Irving, p. 386.*

Quite a number of seals are lost; I don't know how many. *Jack Johnson, p. 282.*

We lose but very few seals that we hit with a spear. *Selwisch Johnson, p. 388.*

At the village of Hesquiat I met Father Brabant, a Belgian priest, who had lived for twenty seven years among the Indians of the west coast. Through him I obtained the Indian view of the present condition of the Alaskan seal herd. I found that by the use of the spear very few seals were lost, and that the Indians of Vancouver had at one time a law among themselves prohibiting the use of guns in taking seals. *Francis R. King-Hall, p. 332.*

When seal were struck with a spear none were lost; a great many are lost when the shotgun is used. *C. Klananec, p. 263.*

I have often heard them say that they only get two or three out of a school, and when they kill them, if they do not get them right away, they will sink and are lost. Further, that they lose a good many that they kill. *Jas. Laflin, p. 451.*

The total catch on being analyzed shows a favorable comparison between the experienced and inexperienced hunters, when the class of boats and arms are taken into consideration, and the extraordinary numbers reported as wounded and lost, dispels any faith in the oft-repeated assertion that *only one in ten* escape from "the unerring rifle in the hands of the experienced hunter." The number, two-thirds of the catch, captured by the Indians, gives the verdict entirely in favor of the primitive weapon of the aborigines as against the modern breech-loader. *Robert H. McManus, p. 338.*

Q. Do you generally shoot seals with a rifle or shotgun?—A. A shotgun. Ninety per cent are killed with a shotgun. *Frank Moreau, p. 469.*

Matthew Morris, p. 286. Always use the shotgun for taking seals. I lose very few, as I always shoot them close to the boat.

Moses, p. 310. The white men shot a great many seals that they did not get, but the Indians secured nearly all that they speared.

I can not say how many seals are killed and wounded, but there is no doubt that green hunters lose many, while those more experienced in the business lose fewer.

Morris Moss, p. 342.

We used the spear more than the gun and secured nearly all of them that we hit with it, but lost a great many seals that we shot. We prefer to use the spear because in so doing we do not lose so many or frighten them away.

Osly, p. 391.

Adolphus Sayers, p. 473. The shotgun is not as fatal as the rifle, but it ruins the skins of the seals.

Breech-loading firearms (rifles and shotguns) are the instruments principally employed by pelagic fur-seal hunters, both native and white. By means of these weapons a greater number of skins are secured in a season than when spears are used; but the proportion of seals struck and lost to those actually secured is much less than when the spear is used.

John W. Smith, p. 233.

The best hunter will fire about twenty cartridges, and they get ten or twelve seals, while a hunter of less experience will fire one hundred rounds and get nothing, but will wound and disable them.

Adolph W. Thompson, p. 486.

Charlie Wank, p. 273. When the spear was used no seal were lost. Now a great many are lost when shot with a shotgun and rifle.

Charley White, p. 395. I have always used spears in hunting the seals, and very seldom lose one I hit.

The investigation further disclosed the fact that of the large number of seals killed by pelagic hunters only a portion of them are secured, and while all admitted that some were lost they differed very considerably as to the number. In one instance a hunter claimed that he secured nearly all that he killed, and in another instance it was said that only one out of fifteen was secured. A great majority of the hunters when closely questioned admitted the losing of a large proportion shot at, and I am of the opinion that the wide difference in their statement was due to two facts: First, some hunters are more skillful than others; and, second, some base their estimate on what they know to have been actually killed, while others estimate from the number shot at.

W. H. Williams, p. 93.

In attempting to determine the sex of seals killed in the Bering Sea and the North Pacific, and of the number of seals killed in excess of those actually secured by the hunters, I had interviews with upward of 50 seal hunters, aside from interviews subsequently had with Indian hunters. I found this portion of my work by far the most difficult. Much discussion had already been had about the damaging effect of pelagic sealing, and the hunters were loath to tell how many seals were killed and not recovered, and were often averse to making truthful reports about the sex of the animals killed; but by frequenting their haunts and cultivating their company for long periods I succeeded in getting accurate statements from a number of them.

I found that at first the hunters were disposed to brag of their skill and to overestimate their success in securing skins of seals shot at. The reason for that was that an impression prevailed among many of them that I was about to engage in sealing enterprises, and that I was making inquiries for the purpose of ascertaining their skill as hunters, with the view to engaging them.

The practice in British Columbia is to pay the best hunters the highest rate per skin. Men who could shoot fairly well, but who use a shotgun, could be secured for a sealing voyage from \$1 to \$1.50 per skin, while hunters who shot with the rifle and were of recognized skill in some instances were paid as high as \$2.50 per skin, and generally speaking as high as \$2 per skin. The reason for this is obvious to those who have interested themselves in the sealing business. A seal killed with buckshot is so much punetured frequently that the pelt is of lesser value. It is not profitable for schooners to engage as hunters men who miss their chances of killing the seals and blaze away indiscriminately with small results. Even though the hunter is only paid for the skin he recovers, the loss to the vessel by his failure to kill when an opportunity offers is equivalent to the profit it would have made on the skin if secured. For these reasons and on account of the general proneness of men, who consider themselves experts in the use of any weapon, to brag, the seal hunters of British Columbia, as a class, grossly exaggerate the percentage of skins they recover to the number of seals aimed at, wounded, or killed.

In attempting to ascertain exactly the number of seals killed and lost by the Bering Sea hunters, I found a wide divergence of statement.

It is greatly to the advantage of the seal hunter to have the reputation of losing but few seals. He is paid by the skin, and the more he catches the greater his remuneration; but that is not all. The hunter with the best reputation as a sure catcher is in the greatest demand, can secure employment in the best schooner, and the largest sum of advance money. Besides self-interest, there comes vanity to urge the hunter to make the biggest reputation possible for himself.

To use a common expression, the seal hunters all brag about their sureness of aim. The best shots use a rifle, and fire at a range of from 50 to 125 yards. The poorer shots depend on a shotgun loaded with buckshot, and will fire at a seal up to 50 yards away.

The Indian hunters use spears, and paddle noiselessly up to the sleeping seal to plunge the spear in its shoulder. They never attempt to spear a seal that is awake. An Indian hunter will paddle in among a

Theo. T. Williams, p. 492.

Theo. T. Williams, p. 493.

Theo. T. Williams, p. 503.

lot of "sleepers" and spear them, one after the other, while a white hunter who uses firearms alarms every seal in the neighborhood at the first discharge.

The Indians lose about one-third of all they spear, either from failure to kill when they strike or because the dead seal sinks too quickly for them to secure it.

The white hunters do not get one-half of all they shoot. Some hunters are very careful shots and will not fire unless the seal is well within range, but the seal is likely to sink before the boat can get to it, or, if wounded, will dive like a flash to get away. A number of hunters have boasted that they secure ninety-five seals for one hundred shots, and some have made affidavits of even more wonderful exploits. They presume too much on public ignorance and credulity.

Fortunately, it is not necessary to depend on the statements of the seal hunters. I secured access to the ship accounts of several sealers, and found that in every case the consumption of ammunition showed more than ten cartridges used for every sealskin captured.

I spent considerable time among the Siwash Indian sealers, and, while they brag of their individual prowess, they admitted a loss of 30 per cent at least. On this subject I append a statement made by Captain Olsen, of the sealing bark *Bessie Ruter*, of Victoria:

Captain Olsen, of the American schooner *Bessie Ruter*, of Astoria, reached Victoria September 27, 1889. In the office of the American consul, Col. R. Stevens, he said: "I took 550 skins in the Bering. Of these 27 were pups, 520 females, and 3 male seals, which I killed off the island of Kodiak. Most of the female seals were with young. I had a green crew and green hunters. They used shotguns and sometimes the rifle. They got about 1 seal for every 3 they aimed at. Some they missed altogether, and some of the wounded ones got away. There is great risk of losing a traveling seal. The sleeping seal blow up an air-bladder that keeps them from sinking, but the seal when awake sink easily. Hooks are used to grapple them, but if the boat is some distance from the seal when it is killed it does not often get it. For that reason rifle shooting at long range hardly pays. I will get about \$7.75 for some of my skins and \$8 for others. My voyage will pay, because I ran the boat on the cheap. I only had two men to the boat, and only paid my hunters \$1 a skin, instead of \$2, which is paid to first-class hunters. Some very skillful hunters do not lose many skins. They will never fire unless a seal is at close range, and they generally kill. Of course, they lose some from sinking. All the hunters brag about how few they lose, because they want the reputation of being good hunters. The better reputation they have the better chance they get.

"If the Bering Sea was open many new men would come into the business, and the loss would be greater. Only a few men make successful hunters. It is like being a clever rifle shot. If the best hunters lose ten or fifteen in a hundred the other kind lose ten times as many, if not more. Green hands will throw away a lot ammunition, shooting at everything they see, whether it is in range or not. You can not stop them. They will wound more than they kill."

PERCENTAGE LOST OF SEALS KILLED.

Page 195 of the Case.

From my experience I am satisfied that 33 $\frac{1}{3}$ per cent shot with a shotgun are lost, and when a rifle is used a larger per cent are lost when killed.

Peter Anderson, p. 313.

We lost fully three out of four that we killed.

H. Andrius, p. 314.

On an average, we saved one out of three that were killed.

Bernhardt Bleidner, p. 315.

It is my honest belief that for every fur-seal skin obtained by pelagic sealers, at least five other seals' lives are taken.

J. A. Bradley, p. 227.

During the trip of 1891 I don't think we got more than one seal out of six that we killed; many were wounded, and others were shot dead and sauk before the boat could get to them.

Thos. Brown (No. 1), p. 319.

I think on an average I got one out of every three killed, but some of my hunters did not do as well. It is difficult to get more than one breaching seal out of six killed. It is the custom for hunters to brag about how many seals they get out of the number killed, and in trying to outdo each other they generally exaggerate the facts.

Jas. L. Carthout, p. 409.

No seal was lost when struck with spear. Fifty per cent are lost when killed with shotgun, and a larger proportion are lost when the rifle is used.

Simeon Chin-koo-tin, p. 256.

Native hunters secure about one-third of all fur-seals killed at sea, while in my belief white hunters secure even a less number in proportion to those killed.

M. Cohen, p. 225.

An average hunter will get one out of four of breaching seals, and one out of three of sleepers that he kills, but a common hunter will not get so many.

Peter Collins, p. 413.

And that a vast number of the seals killed by them are lost.

Leander Cox, p. 417.

It is my experience that very few, if any, seals were lost by the hunters who use the spear, but fully 75 per cent of all those killed by the rifle were lost.

Jas. Dalgarduo, p. 364.

Our hunters used shotguns, and were good hunters. They lost a good many seals, but I do not know what proportion was lost to those killed. Some of the hunters would lose four out of every six killed.

Alfred Dardean, p. 322.

From my observation of the methods employed by the open-sea hunters I believe that a very large proportion of those killed by them are lost. I have often heard sealers so express themselves. They have said to me that they get only about one out of five shot or killed; others made the loss still greater. I think the latter statement more nearly correct.

F. F. Feeny, p. 220. Of seals killed, about four out of five are saved.

Q. What percentage of seals are taken, compared to those you destroy in doing so? How many do you get of those you shoot?—*A.* That depends upon the hunter. *Luther T. Franklin, p. 425.* The general average is, about thirty-five to forty are taken out of one hundred that are killed.

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting, that you, like all other beginners, destroyed a much larger proportion than you now do?—*A.* Yes, sir.

An experienced hunter like myself will get two out of three that he kills, but an ordinary hunter would not get more than one out of every three or four that he kills. *Thos. Gibson, p. 432.*

I lose about 50 per cent when I use the shotgun, and more are lost when rifle is used. I always shoot them in the head when possible, but if not possible I shoot them in any part of the body that is exposed. *Gonastut, p. 238.*

About 50 per cent are lost when killed with a shotgun, and a larger per cent when rifle is used. *Jas. Gondowen, p. 259.*

A good hunter will often lose one-third of the seals he kills. A poor hunter will lose two-thirds of those he shoots. On an average, hunters will lose two seals out of three of those they shoot. *Arthur Griffin, p. 326.*

The hunters would get, on an average, one out of every four they killed. *Jos. Grymes, p. 434.*

On an average, I think the hunters will save about one out of three that they kill, but they wound many more that escape and die afterwards. *Jas. Harrison, p. 326.*

Formerly the seals were gentle and the approach of a vessel did not even alarm them, but when firearms came into use it so frightened them that they had to be shot at long range, entailing a loss of not less than three out of every four or five killed. *M. A. Healy, p. 28.*

I think I got half of what I killed and wounded. I do not think that the green hunters get more than one out of every four or five that they kill. *Jas. Kean, p. 448.*

My experience convinces me that a large percentage of the seals now killed by shooting with rifles and shotguns are lost. My estimate would be that two out of every three killed are lost. Formerly the killing was done by spearing, and

in later years it was learned that shooting them was a swifter method of killing. At the start the hunters were inexperienced and a large proportion were lost.

I use the shotgun for taking seal, and sometimes I lose one or two out of ten that I kill. *Jas. Klonackiet, p. 233.*

Breech-loading firearms were used exclusively. My own success as a hunter was a catch of 80 per cent of all fur-seals killed *E. L. Lawson, p. 221.*

I have made it my business to find out what proportion of skins of seals killed are really brought into the market, and from the information which I obtained from the sealers, hunters, and those owning the skins, I learned that on an average only about one out of six killed was secured, varying with the expertness of the hunter. *Geo. Liebes, p. 511.*

That by reason of his long acquaintance with the business and his conversations with the captains of the vessels called poachers, and the hunters employed on those vessels—that is, the persons who actually shoot the seals—deponent is satisfied that a large number of the seals which are shot are not caught, but are lost, and that the number so killed and lost is at least 25 to 30 per cent. *Herman Liebes, p. 514.*

The number of seals actually secured to the number killed does not exceed about one in four, or about one is taken for every three destroyed, varying, of course, with the skill and experience of the hunters. *Isaac Liebes, p. 453.*

From these conversations I should judge they did not secure more than one-half of the seals killed; and this, I think, is a large estimate of the number secured. *A. P. Loud, p. 39.*

I have frequently noticed in the harbor of Petropaulovsky that the natives, in killing hair-seals, are only able to obtain one animal out of every four or five of those killed, and that they frequently wait about four days for the bodies to be washed ashore. *Jno. Malowansky, p. 198.*

It takes anywhere from one to twenty shots, on the average, to secure a seal, and I think we got about three out of five that we killed; but we may not have got as many, for poor hunters wouldn't get more than one out of five. *Thorwal Mathasan, p. 339.*

None I lost when I used spear. About 20 per cent are lost when killed with shotgun. *Nashlou, p. 298.*

An experienced A No. 1 seal hunter, in shooting sleeping seals with a shotgun, will get a large proportion of what he kills, and will get one out of four breeching seals that he kills, but an ordinary, common hunter, like myself, will sometimes use ten cartridges and not get one seal. I can safely say that a common hunter will only get one seal out of three. *Niles Nelson, p. 469.*

The white hunters who used guns in the Bering Sea were banging away at the seals sometimes all day long, and they would lose a great many of those that they had shot. I do not think that they brought to the schooner one-half of those that they killed, to say nothing of those that they wounded and got away.

Osly, p. 391.

But since it has become the practice to hunt seals with guns a good many are killed, wounded, and lost. Green hunters bang away and wound more than they kill and will shoot six or seven before they get one, and sometimes more. Good hunters will do much better. I used to get most of the seals I killed, but I have killed five dead in succession and lost the whole of them.

Wm. Parker, p. 344.

Our best hunters would secure half of the seals shot, but the poorest ones would not get more than one out of twenty, the average being one secured out of five killed.

Chas. Peterson, p. 345.

An ordinary hunter will lose about four out of every six he kills. Some do not do near as well, while others do better. The percentage of loss to those killed is less on the coast than it is in the Bering Sea, for the seals are more fat and do not sink as quick, but a great many are wounded and lost. The Indians, when they use the spears, lose but very few. They get up close to the sleeper and scarcely ever miss getting it.

Edwin P. Porter, p. 347.

Shotgun is exclusively used by me for taking seals. Lose about 20 per cent of those killed with shotgun.

Abel Ryan, p. 299.

The captain, mate, and myself went out several times with the stern boat, and we killed 15 the first time we went out. I think we went out that way three or four times, and we usually got about one out of four killed. I recollect one day when we were hunting, bad weather set up, and we did not get any seals. In good weather we got more seals than we did in bad weather.

Peter Simes, p. 476.

Geo. Skultka, p. 290. I lose pretty near half of the seal that I kill [with the shotgun].

E. W. Soron, p. 479. And we only got about one out of five killed.

[An ordinary hunter will not get] more than one out of two that he kills, and sometimes not that.

Cyrus Stephens, p. 479.

Our hunters used shotguns and lost a great many; I think we would save two out of five that we killed.

John A. Swain, p. 350.

First. Pelagic sealing is wasteful, as a large percentage of seals killed are lost. Opinions on that point varying from 30 to 70 per cent.

Z. L. Tanner, p. 374.

On my first voyage I think we got two out of every five that we killed. *Adolph W. Thompson, p. 486.*

When seal were struck with a spear none were lost; lose about 50 per cent when killed with shotgun. *Charlie Tlaksatan, p. 270.*

I had in my employ men who are old seal-hunters, and who were formerly engaged in that business, and they have often told me that they lost at least two out of every three they killed. *M. L. Washburn, p. 489.*

Deponent is of the opinion that in addition to the seals actually caught a very large number are killed and not caught; and he bases this opinion upon the declaration to him of large numbers of persons engaged in pelagic sealing. He is not able to state accurately what that proportion is, but considers that two-fifths would be a very conservative estimate; that is, of the total number killed three-fifths are secured and two-fifths lost. *C. A. Williams, p. 538.*

I have heard men say that they killed and recovered 90 per cent of all the seals they fired at, but on examination of the accounts of the schooners on which they had been employed previous voyages, I discovered that more than ten rounds of ammunition had been used for every skin that the vessel brought home. *Theo. T. Williams, p. 493.*

A green hunter would get one out of every five or six that he shot or killed, and an experienced hunter might kill three or four and get one. *John Woodruff, p. 506.*

PERCENTAGE LOST OF SEALS STRUCK.

The skill of the hunter has a great deal to do with the number of seals secured of those killed or wounded, but the most expert does not get more than half he hits, and the average for hunters in general would be about three in ten. *C. A. Abbey, p. 187.*

We secured one out of about every five that we shot at or killed. *Chas. Adair, p. 400.*

An experienced hunter would get one out of every three that he shot or killed, and a green hunter would get about one out of every seven or eight that he shot or killed. *Chas. Adair, p. 401.*

It has been my custom in the last few years to examine the logs of sealing vessels and to converse with officers and hunters of such vessels in order to obtain what information I could as to the methods employed by hunters, and the loss of seals occasioned in such pursuit. From the logs I learned that in many instances one hundred rounds of ammunition had been fired to each skin secured, and often more; and on an average I found that not over five seals to the hundred shots had been *Geo. R. Adams, p. 158.*

obtained. The logs further showed that a large number had been wounded and lost.

I also ascertained from the logs, and from conversation with masters of sailing schooners, that not one seal out of ten killed or wounded had been caught. These inquiries I pursued at San Francisco until quite recently.

The chief killing by poachers was done between the passes of Aleutian Archipelago and the Pribilof Islands.

When spear was used I lost none, and I lose no seal when I use the shotgun, for I don't shoot them unless they are close to the boat.

Akatoo, p. 237.

Have always used a shotgun and rifle in taking seal since a young man. I rarely lose any seal I shoot, as I never shoot at them unless they are very close to the boat.

Adam Ayonkee, p. 255.

Q. What percentage of seals are taken compared to those you destroy in doing so; in other words, how many do you actually get out of those you shoot?—A. If we get three seals out of every five we consider it

Geo. Ball, p. 482.

doing very good work, and so I believe do all hunters, even the best of the hunters.

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting that you, like all other beginners, destroyed a much larger proportion than you do now?—A. Undoubtedly we did destroy a much larger proportion than we do now.

Have always used a shotgun for taking seal, and lose about 40 per cent of what I shoot.

Maurice Bates, p. 277.

No seal were lost when struck with spear. About 40 per cent of seal shot with shotgun are lost, and more when the rifle is used.

Wilton C. Bennett, p. 356.

I use the shotgun for taking seal. I lose about 25 per cent of the seals shot.

Edw'd Benson, p. 277.

The spear and shotgun have been used by me. But few seal are lost that are struck with spear. About 66 per cent are lost when shot with shotgun, and a larger proportion are lost when rifle is used.

Martin Benson, p. 405.

On the *Pioneer* we had a couple of good hunters who would get almost all they shot at, while some of our hunters would lose a good many that they would kill and wound. A green hunter will not get more than one out of five, and I have known one hunter on our vessel who shot eighty shots and got only four seals. Indian hunters that use spears seldom lose any that are struck, and there is no wounded to go away and die.

Neils Bonde, p. 316.

In 1890 our hunter in the stern boat secured 60 seals, and lost over 200 seals that he wounded.

Henry Brown, p. 318.

This year the seals are wilder than the year before; I think it was because they were hunted so much. We did not capture as many in proportion to the number shot as we did the year previous, and did not save more than one out of six that we shot. *Thos. Brown (No. 1), p. 319.*

We got on an average three or five out of every twelve killed and wounded. It depends a great deal upon the weather. There were lots of seals in the water at that time. *Thos. Brown (No. 2), p. 407.*

I have boarded a large number of vessels fitted out as sealers and engaged in sealing, and have conversed with their masters and crews on the subject of pelagic sealing. From information gathered from these and other sources, and by comparison of testimony given by the seal-hunters, would say that at least 66 per cent of seals killed or wounded escape and are never recovered. *John C. Cantwell, p. 407.*

The average hunter would get one out of every three that he shot; a poor hunter not nearly so many. There are twenty-one buckshot to a shell. * * * When they are in school sleeping we get a good many. We did not get as many we shot at in the Bering Sea as we did on the coast. If we got one out of every three that we wounded in the Bering Sea we were doing pretty well. *Chas. Chalall, p. 411.*

I used a shotgun almost exclusively last season, and lost about one-third of all fur-seals shot. *Julius Christiansen, p. 219.*

I think about 50 per cent of the seals shot with shotgun are lost, and greater proportion are lost when shot with a rifle. *Peter Church, p. 257.*

In hunting with guns I usually get about two out of five that I shoot; sometimes I would wound one and it would get away and it probably would die. *Jas. Claplanhoo, p. 382.*

I always use the shotgun for taking seal. I think about 25 per cent are lost. *Wm. Clark, p. 293.*

Q. Is it not a fact that you destroy a large percentage of seals that you do not catch?—A. Yes, sir.

Q. What is that percentage?—A. We catch about seven seals out of ten. *Daniel Claussen, p. 411.*

Q. What percentage of seals are taken compared to those you destroy in doing so; in other words, how many do you actually get out of those you shoot?—A. We get about 75 per cent of what we shoot.

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting, that you, like all other beginners, destroyed a much larger proportion than you now do?—A. It is; yes, sir.

Over 50 per cent are lost when shot with shotgun. *Jno. C. Clement, p. 258.*

My observation of the seal-hunting by white hunters in 1888 is that they do not secure more than two or three out of every one hundred shot. The number of shots fired by a hunter in an ordinary day's sealing is *Louis Culler, p. 321.*

something enormous, and the waste of seal life in the water is dreadful to contemplate. * * *

The proportion of loss of seals shot by white hunters in the *Otto* was quite as great in 1891 as by the hunters in the year before stated. I have never seen any black pups in the North Pacific Ocean.

The Indian hunters secure at least eight out of every ten of the seals that they spear. They do not make as much noise, nor frighten the seals as badly as hunters who use guns.

Louis Culler, p. 322.

When it was rough weather, we got one out of six that we killed or wounded, and in smooth weather we could get on an average one out of three and sometimes three out of five.

John Dalton, p. 418.

We hunted mostly with shotguns, and captured about one-half that we killed and wounded.

Joseph Dennis, p. 418.

And that twice as many seals are lost as are captured.

John Dohrn, p. 259.

On an average all the hunters will get one out of every three or four seals that they killed or wounded. There were plenty of seals in the water at that time.

Richard Dolan, p. 419.

We got one out of every five or six that we killed or wounded. We wounded a great many that we did not get.

Geo. Fairchild, p. 423.

When I was a young man the Indians used the spear for taking seal; now they have learned from the white man to use the shotgun. About three out of ten are lost that are shot.

Frank, p. 294.

Have always used the shotgun for taking seal. I lose about two out of ten that I shoot.

Luke Frank, p. 294.

The hunters used rifles and shotguns. They got about one out of every six they shot at or killed, and sometimes they got none. The greater majority of them were females. We used rifles; we had experienced hunters on board and we got one out of every three killed or wounded.

Wm. Frazer, p. 427.

Q. What percentage of seals are taken compared to those you destroy in doing so? In other words, how many do you actually get of those you shoot?—A. About 30 per cent.

Edward W. Funcke, p. 428.

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting that you, like all other beginners, destroyed a much larger proportion than you now do?—A. Yes, a little more in proportion.

Chas. Gibson, p. 281.

Have always used the shotgun for taking seal. I lose about 33½ per cent of what I shoot.

Indians lose a less number of the seals shot at and wounded or killed than white hunters. When they use spears they get nearly all they wound. When they use shot-guns they do not get more than one out of eight killed or wounded. In conversation with boat-steerers and boat-pullers I have frequently heard them state that hunters would sometimes fire from 75 to 100 shots without bringing in a single seal. The hunters would claim they secured nearly all they fired at or killed, but it is known that this is not true. It is impossible to say what proportion of the seals fired at are killed or wounded, but taking the run of hunters, good and poor, I should say that the best get about 50 per cent of those shot at, while the poorest do not get more than one out of fifteen fired at.

About 75 per cent are lost when shotgun is used. Have never seen but three seal killed by rifle secured. If you shoot a seal in the throat it is hard to secure him, although each boat carries a long gaff to hook them out of the water.

E. M. Greenleaf, p. 324.

Jas. Griffin, p. 433.

The native hunters used spears exclusively in hunting the seals, and secured fully two-thirds of all struck. I am of the opinion that with firearms not more than one-third of the animals shot are actually secured.

A. J. Guild, p. 231.

Have always used a shotgun for taking seal, and lose about 25 per cent of the seals I shoot.

Henry Haldane, p. 281.

I use the shotgun exclusively for taking seal. About 65 per cent of the seal hit are lost.

Martin Hannon, p. 445.

Q. According to your experience, what percentage of animals that are shot are actually taken by the boats?—A. That depends a good deal on the man that shoots them. Some fellows will miss four out of five and another may miss three out of five and cripple them. I think on a general average we will get about three out of five.

H. Harmsen, p. 442.

Q. What percentage of seals are taken compared with those you destroy in doing so; in other words, how many do you actually get out of those you shoot?—A. We get about two thirds of those we shoot.

Wm. Henson, p. 484.

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting, that you, like all other beginners, destroyed a much larger portion than you now do?—A. Yes, sir.

Many seals are wounded and lost, depending largely on the skill of the hunter. I think I get pretty nearly all that I kill, but other hunters have been with me that I know lost a greater portion of those they shot at. Probably a fair average would be, taking all the hunters together, one seal secured to two lost.

Wm. Hermann, p. 446.

Indians using spears recover more than 90 per cent of all fur-seals struck, while the white hunter secures on an average about 60 or 65 per cent of all fur-seals shot in the season. With whites, their greatest

Norman Hodgson, p. 366.

losses occur during the earlier part of the season. More fur-seals are lost in proportion which are killed by means of a shotgun than with a rifle.

Q. What percentage of seals are taken compared to those you destroy in doing so; in other words, how many do you actually get out of those you shoot?—A. We get about 75 per cent of them.

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting, that you, like all other beginners, destroyed a much larger proportion than you now do?—A. Yes, sir; it is.

E. Hofstad, p. 260. I think that 66 per cent of the seals shot with shotguns are lost. When rifles are used, a still larger per cent is lost.

The shotgun was exclusively used by our hunters. I can form no idea as to the amount of seals lost. Some hunters lost more and some less. It ranges all the way from 10 to 75 per cent, according to stories told by hunters.

Alfred Irving, p. 386. We used shotguns, and secured about two seals out of five that we shot.

Q. According to your experience, what percentage of animals that are shot at are actually taken by the boats?—A. I think about one-third is lost.

The Indian hunters with spears would not wound or lose but very few seals that they struck, but the ordinary white hunter will, on an average lose over half that he kills and wounds.

Q. According to your experience, what percentage of animals that are shot at are taken by the boats?—A. About a third to a quarter, we lose.

J. Johnson, p. 331. About 40 per cent shot with shotgun are lost. When the rifle is used, a larger per cent is lost.

Have always used shotgun and rifle for taking seal. I never lose any seal when I shoot them, because I always shoot them close to.

The spear and arrow was used to take seal when I was a boy, but now I use the shotgun and rifle. At least 50 per cent are lost when shot with shotgun. When rifle is used a larger portion of seal are lost.

Philip Kasheraroff, p. 262. About three seals are secured out of every ten shots.

King Kaskwa, p. 295. I always use the shotgun for killing seal. I lose about four out of ten that I shoot.

I always use the shotgun for taking seal. Sometimes I lose two and three out of ten that I shoot. *Jim Kasooh, p. 296.*

Fully one-half the seal shot with shotguns are lost, and a much larger proportion when the rifle is used. None were lost when struck with a spear. *Mike Kethusduck, p. 262.*

On an average we got one or two out of every six or seven that we wounded or killed. *Jas. Kennedy, p. 449.*

The white men lose a great many by shooting. The Indians lose fewer in their method by spearing. He thinks white men lose three out of five, on an average. *Kickiana, p. 306.*

Constant shooting has frightened them and made them wild, so that they have to be shot at great distances unless found asleep. Much depends for successful hunting upon the weather, as it is difficult to get accurate aim when both the hunter's boat and the seal are in motion. A poor hunter does not secure more than one out of every five shot or aimed at. Good hunters do better. *Jas. Kiernan, 450.*

The first seal sighted was August 4, longitude 136°32' west, latitude 52°46' north.

During the days following August 4 the canoes were lowered, but their search for seals was fruitless. On August 14, before entering Bering Sea, a seal was speared by the Indians off Marmont Island, which was bearing NW. $\frac{1}{4}$ W. 35 miles. We entered the sea at 6:30 p. m. on the 22d day of July [August] and at 9 o'clock the following morning we got our first seal in the Bering. It was shot by one of the white men in a boat. We were at this time about 25 miles west by north of Northwest Cape on Unimak Pass. On the same day 4 other seals were shot, and 3 not recovered. Two sank and the other escaped badly wounded. The following day the captain shot 2, losing 1, and the other boat brought 1 seal on board. On the 25th of August we were 125 miles southeast of St. George Island. The Indian hunters were out all day and brought in 3 seals, the white hunters getting none. The captain informed me that day that the previous year he had taken in this locality 148 seals in one day, and that one of his hunters got 38 and lost 40, which he shot. The next day the two boats and canoes were out, and the captain brought back 1, but had shot and lost 6 others, 1 of which sank. The other boat reported that they shot 7, but all sank before they could get them, the water being so colored with blood that it was impossible to see the bodies sufficiently to recover them with the gaff. The two Indians brought back 10 seals, all speared. Out of the number taken on board 4 were full of milk. On the 27th the Indians brought in 2 seals and the captain 1, which were all they had seen. On the 29th 17 seals were taken; the captain got 3, having lost 4, killed or wounded. The other boat brought in 3, having lost 2, and the cook shot one from the schooner's deck. Out of these, 7 were females, which covered the decks with milk while they were being skinned. * * *

I am convinced that at the very least white hunters lose 50 per cent of the seals they hit, and probably the majority of those wounded will ultimately die.

Robert Kooko, p. 296. When a seal is struck with a spear we never lose him. About 50 per cent are lost when shot with a shotgun.

About 60 per cent of the seal are lost when shot with a shotgun. *Jas. Kowineet, p. 264.* When rifles are used a much larger proportion is lost.

About 50 per cent of the seals are lost when shot with shotguns; a much larger per cent are lost when shot with a rifle. *Geo. Laheek, p. 264.*

Of all the fur-seals struck in the entire season by both implements more than two-thirds were actually secured, the greater proportion of losses resulting from the use of the shotgun. *Jas. E. Lennan, p. 369.*

On an average a hunter gets one seal out of four. Some hunters do not get that many, because the seals sink out of sight after they are killed before we can get them. *Caleb Lindahl, p. 456.* I have known of poor hunters losing nine out of ten.

The average hunter will fire ten times to get one seal. I think on an average he gets about one seal out of every three killed. *Wm. H. Long, p. 458.*

Q. What percentage of seals are taken compared to those you destroy in doing so; in other words, how many do you actually get out of those you shoot?—A. I should say we get about 80 per cent of those we shoot. *Chas. Lutjens, p. 458.*

Q. Is it not a fact that when you first started in the business and was inexperienced in hunting, that you, like all other beginners, destroyed a much larger proportion than you now do?—A. There is no doubt about that.

The hunters would get on an average two out of every six that he wounded or killed. Seals were quite plentiful at that time, and there were lots of them destroyed that we did not get. *Thos. Lyons, p. 460.*

Geo. McAlpine, p. 266. The shotgun was used exclusively. Over 50 per cent of the seal shot were lost.

J. D. McDonald, p. 266. I think we lose about 66 per cent of the seals shot with shotguns.

Taking the general average, we would not get more than two seal out of every ten that the hunters shot at. Out of every sixty-five seal that was brought aboard the schooner I got one, so I tried to spear as many as I could after they were shot. We caught more seals in the Bering Sea than we did going along the coast, as we found more of them. * * *

All the seals that we shot at in rough weather were lost. In fine weather they sleep on top of the water and we do not lose so many of them.

No seal are lost that are struck with spears. *Jas. McKeen, p. 267.*
With a shotgun about 50 per cent are lost.

We got about one out of every five that we killed or wounded. There was any amount of them that we shot and did not get at all. It seemed as if a good many got away. * * * *Wm. McLaughlin, p. 462.*

We had some white hunters and Indian hunters. I do not think that we lost as many that year in proportion to those that we killed as we did in the *Triumph*. We got about one out of every three killed and wounded. They were better hunters.

Q. According to your experience, what percentage of animals that are shot at are actually taken by the boats? You can only estimate it?—A. That is a very hard question for me to give you a proper answer to. I do not think they lose any more than one out of ten. *Alex. McLean, p. 436.*

Q. What percentage of those shot at and are not taken perish?—A. Outside of that?

Q. Yes.—A. I can not answer that.

Q. According to your experience, what percentage of animals that are shot at are actually taken by the boats?—A. That is according to the amount of ammunition that we use. About one-third are taken. *Daniel McLean, p. 443.*

We had Indian hunters who used shotguns. The Indian hunters are more expert than the white hunters and they do not lose so many seals they kill. I think they would get one out of every two or three killed or wounded. *Thos. Madden, p. 463.*

About 50 per cent of the seals shot with shotgun are lost. *Edwd. Maitland, p. 284.*

I do not think our hunters got one-half of those they killed or wounded. They would sink before we could get our boat up to them. *Jas. Maloy, p. 463.*

There were six boats on the vessel. Some of the boats would come in without a seal, after being out all day long shooting, but they would wound a great many. On an average, taking all the boats together, they got one out of every five or six that they killed or shot at. We wounded a great many that we could not get. *Patrick Maroney, p. 464.*

About 50 per cent are lost that are shot with the shotgun. *Chas. Martin, p. 297.*

I always use the shotgun for taking seal, and lose about 25 per cent of what I shoot. *Fredk. Mason, p. 284.*

I do not think they would get more than one seal out of every six or seven they shot, and sometimes only one out of ten. *Henry Mason, p. 465.*

Our hunter was a good one. His name was Joe Williams. I think he got one out of every three on a average. He used a rifle a good deal and was a fine shot; some of the hunters in the other boats would shoot at the seal and not get any at all, and come in at night without any, or may be one or two. There was one hunter from Nova Scotia that did not kill any scarcely.

E. Miner, p. 466. I think about 33 per cent of the seals shot with a shotgun are lost.

Amos Mill, p. 285 About 20 per cent of the seals I shoot with shotgun are lost.

Q. What percentage of seals are taken, compared to those you destroy in doing so; in other words, how many do you actually get out of those you shoot?—A. About 75 per cent. We lose about 25 per cent.

Q. Is it not a fact that when you first started in the business, and was inexperienced in hunting, that you, like all other beginners, destroyed a much larger proportion than you do now?—A. Certainly; there is no doubt about that.

From my knowledge of the aquatic habits of the seal and the difficulty of accurate shooting when the object is in the water, I am of the opinion that a large number of seals are also killed by vessels engaged in the business of taking seals in the open seas, which are not caught. I am unable to form any estimate of the number of seals, shot or speared from vessels, which are lost, but in the last two or three years of my residence at St. George Island, in taking 15,000 seals, I found, approximately, 3 pounds of lead, in the form of slugs, bullets, and buckshot, which I personally took from the bodies of male seals, some of which were so badly wounded that they would have died; and I have personally examined the log of the schooner *Angel Dollie*, in which it was stated that the hunters from that vessel got about one seal out of every ten seals shot at; also that on one occasion they fired 250 rounds and got 20 seals; on another occasion 100 cartridges and got 6 seals; and which log also stated that the captain personally shot and killed 7 seals of which he got only one.

Jno. Morris, p. 340. They lost very few of the seals they speared. They secured about all of the seals they speared.

When in Bering Sea I had an opportunity to observe the difference in the number of seals lost by killing them with shotguns and by taking them with spears. The hunters that used shotguns lost more than one-half they shot, while the hunters that used spears seldom ever lost one that they hit.

Morris Moss, p. 342. It is generally conceded that the Indian hunters in the use of the spear seldom lose one they kill or wound.

When I was a boy I used a shotgun for taking seal, bought from the Hudson Bay Company at Fort Simpson, and have always used a shotgun for sealing. I think about two out of ten seal shot are lost. *Smith Natch, p. 298.*

Sometimes I lose two and sometimes three seal out of ten I shoot. *Dan Nathlan, p. 286.*

Use the shotgun for taking seal, and lose about 25 per cent of those I shoot. *Jos. Neishkaitk, p. 287.*

Have used a Hudson Bay shotgun since I can remember for taking seal. I very rarely lose a seal, because I shoot them close to the boat. *Ntkla-ah, p. 288.*

It depends a great deal upon the weather as to the amount of seals obtained by the hunters. After a heavy blow you see the seals lying on top of the water asleep, and you can get very close to them, and on an average you would get 2 or 3 out of every 5 or 6 you kill or wound, while in rough weather you would not get 1 out of 5 or 6 killed or wounded. *John O'Brien, p. 471.*

Not being hunters of experience, our men lost about two-thirds of all the seals shot. Good hunters would not lose to exceed 25 per cent. *Nelson T. Oliver, p. 372.*

We used shotguns, using buckshot, and I have known twenty shots to be fired at a seal before we got her. When we shot at "sleepers" we got a good many more than when we shot at "breachers" or "rollers," and we secured on an average about one out of every three killed and wounded. The percentage of loss of those killed and wounded is fully as great as I have stated. *John Olsen, p. 471.*

When rifle is used less than one seal for five shots is secured; many shots miss, but of those seals hit about one-half are secured. *W. Roberts, p. 241.*

An ordinary hunter, on an average, will not kill one out of four breaching seals, and sometimes he will not get one. The sleeping seal is the most easily killed, and we got about one out of three killed and wounded. *Adolphus Sayers, p. 473.*

It is very hard to estimate the number lost of those shot, but I should judge an expert hunter would lose certainly from 40 to 60 per cent, and a hunter not particularly expert would lose from 80 to 85 per cent. *L. G. Shepard, p. 188.*

In some instances we ran upon schools of seal and shot five or six, all of which would be lost; in other instances we would secure about one-half of those wounded. One half of all seals shot on the coast are lost. *Wm. Short, p. 348.*

About 25 per cent are lost when shot with a shotgun and more are lost when shot with rifle. Shotgun and rifle are used by me for taking seal. *Jack Shucky, p. 289.*

When I used a spear none were lost that were struck. When shotgun is used nearly 50 per cent are lost; when rifle is used a still larger percentage is lost.
Martin Singay, p. 268.

No seal were lost when struck with spear or arrow. Fully 50 per cent of seal shot with shotgun are lost and a much larger per cent are lost when shot with a rifle.
Jack Sitka, p. 268.

Always used a Hudson Bay gun to take seal with. A Hudson Bay gun is a single-barreled shotgun. Sometimes I lose one and sometimes two out of ten that I shoot.
Thomas Skowl, p. 300.

We used shotguns on that trip also, once in a while using a rifle for long range. I think the average hunter gets about one or two out of every five or six that he kills or wounds.
Jas. Sloan, p. 477.

I think about one-third of the seal shot with shotgun are lost.
Fred. Smith, p. 349.

Very few are lost when struck with a spear. About 66 per cent are lost when shotgun is used.
Wm. H. Smith, p. 478.

An ordinary hunter will not get more than one out of four that he shoots at.
Cyrus Stephens, p. 479.

About 25 per cent of seals shot are lost.
Joshua Stickland, p. 350.

Q. What percentage of seals are taken compared to those you destroy in doing so; in other words, how many do you actually get out those you shoot?—A. I guess we get hardly two-thirds of what we shoot.
Gustave Sundvall, p. 481.

Q. Is it not a fact that when you first started in the business, and was inexperienced in hunting, that you, like all other beginners, destroy a much larger proportion than you do now?—A. It is.

Very few seal were lost when struck with spear or arrow, but when seal are shot with shotgun over 50 per cent are lost. A much larger per cent are lost when seal are shot with rifles.
M. Thlkahdaynahkee, p. 269.

I have always understood that 33 per cent of seals shot with shotguns are lost.
W. Thomas, p. 485.

The hunters use shotguns and rifles exclusively for taking seal. I think that from what I have been able to learn, about half the seal shot are lost, the hunters being unable to secure them before they sink.
Jno. C. Tolman, p. 222.

About 60 per cent of the seal shot with shotgun are lost. A much larger per cent is lost when rifle is used.
Peter Trearsheit, p. 271.

I get most all the seals that I hit with the spear. I lose one-half of those I shoot with a gun.
John Tysum, p. 394.

When the spear was used all seal speared were secured. About 50 per cent of the seal are lost when shot with shot-guns. Whenever I have used a rifle for shooting seal a much larger proportion of those killed have been lost on account of shooting them at a longer distance from the boat. *Jas. Unatajim, p. 271.*

I think I generally lose about 75 per cent of the seals shot with shotgun. *Geo. Usher, p. 291.*

I have learned from personal observation and from conversations with parties that they lose in killed and wounded at least two out of every three obtained. Other sealers have told me that their loss is much greater. *Chas. T. Wagner, p. 212.*

About 50 per cent are lost when shot with shotgun; when rifle is used a much larger per cent is lost. *Rudolph Walton, p. 272.*

I have often conversed with the hunters relative to the percentage of the loss of seals to those taken, and some tell me they get 1 out of 5 or 6. *Elkan Wasserman, p. 534.*

Heretofore the natives have always used canoes, but the white men hunt them from schooners, use firearms, and get about 2 out of 5. *Weckenunesch, p. 311.*

My hunters use shotgun exclusively. They carry a rifle with them in the boat, but have not used one this season to my knowledge. I think, as near as I can estimate, about 33½ per cent of the seals shot are lost. *P. S. Weittenhiller, p. 274.*

From my knowledge and experience in the business it is my conviction that within the last few years, since the sealers have become so numerous in the Pacific and Bering Sea, that not more than 1 out of 3 are secured. *Michael White, p. 490.*

I always use the shotgun for taking seal. I think I lose about 5 out of every 10 that I shoot. *Billy Williams, p. 300.*

That for every 3 sleeping seals killed or wounded in the water only 1 is recovered. *Theo. T. Williams, p. 493.*

For every 6 traveling seals killed or wounded in the water only 1 is recovered.

Sometimes I lose 1 and sometimes 2 out of 10 that I shoot with a shotgun. *Fred. Wilson, p. 301.*

When the spear was used very few seal were lost. About 50 per cent are lost when shot with shotgun. A larger per cent are lost when killed with a rifle. *Billy Yeltachy, p. 302.*

I use the shotgun for taking seal, and lose about 2 out of 10 that I shoot.

Sometimes I lose one and sometimes two out of every ten that I shoot. I always shoot the seal close to the boat, so I don't lose many.

Hastings Yethnow, p. 302.

Alf Yohansen, p. 369.

The shotgun is used altogether for taking seal. About 33 $\frac{1}{3}$ per cent of the seal shot are lost.

Paul Young, p. 292.

Always use shotgun for taking seal. I lose but very few seal, as I always shoot them very close to the boat.

Walter Young, p. 303.

Have always used the shotgun for taking seal. Think I lose about three out of ten of those I shoot.

Thos. Zolnoks, p. 399.

In hunting with spears I capture nearly all that I hit.

WOUNDING.

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Those only wounded, whether fatally or otherwise, dive and escape capture. The less severely wounded may, and in many cases doubtless do, recover from their wounds; but, in the nature of things, many others must die of their injuries. There is a wide range of chances between an instantaneously fatal or disabling shot and a slight wound from which the victim may readily recover, with obviously a large proportion of them on the fatal side of the dividing line.

A good many of the seals that I have caught in the last three or four years have shot in them and some have been badly wounded. I have seen white hunters shooting seals out in the sea, and they lose a great many more than they get, and we sometimes capture some of those that they have badly wounded.

Bowa-chup, p. 376.

Peter Brown, p. 377.

But have caught a great many seals that had shot in them.

I think a great many seals are wounded by hunters that are not taken. The gunshot wounds more seals than the rifle. I think the aim of the hunter is to kill the seal rather than wound it.

Chas. Challall, p. 411.

We often take seals that have been wounded with a rifle or shotgun, and in their bodies there are a large number of shot.

Jas. Claplanhoo, p. 382.

Alfred Dardean, p. 322.

A good many are wounded and escape, only to die afterward.

When I get seals now a great many have shot in them, a thing I never saw before until about six or seven years ago.

Frank Davis, p. 383.

Some that I shoot are wounded and get away, and probably die. I have caught a good many seals that had shot in them.

Ellabush, p. 385.

They kill and wound a great many that they do not get. I have speared a great many seals that had shot in them.

Selwisch Johnson, p. 388.

I know that a great many must be lost by the white hunters, for a great many that I catch have shot in them, and some are badly wounded.

Jas. Lighthouse, p. 390.

During the killing season on the Commander Islands we frequently find in the bodies both bullets and shot.

Jno. Malowowsky, p. 198.

I have captured a great many seals with the spear and found shot in them.

John Tyseum, p. 394.

When they were wounded we had to chase them, and then sometimes would not get them.

Patrick Maroney, p. 464.

While out seal hunting last year I captured a few seals that the white hunters had wounded and lost, and found a good many shot in their bodies. I have captured a good many seals lately that had buckshot in them.

Charley White, p. 396.

i At the times when the male seals are on the rookeries the large catches are made. A traveling seal is alert, cautious, quick of hearing, and easily disturbed. A sleeping seal is at the mercy of anyone. The large proportion of traveling seals shot at and lost is due to the timidity of the animal; in fact, all the hunters admit that when there is much shooting going on the seals are very difficult to get. The loss of sleeping seals, which I estimate as two lost for one saved, is due to the fact that unless the bullet or shot kills the animal instantly it will immediately dive, and it is not easy to kill a seal instantly. The head of the seal affords but a small mark. Even in the case of a sleeper, the motion of the water keeps it moving. The boat from which the hunter shoots is also moving, and while there are men who at a distance of 50 or 60 yards can shoot a small object under such circumstances, they are extremely rare. They are famous as experts, and they are highly rewarded for their skill. Certainly not one in ten of all the seal hunters can truthfully assert, nor do they attempt to do so when in a confidential humor, that they kill 50 per cent of their seals dead.

Thos. T. Williams, p. 494.

I was in the company of a number of them in Victoria in 1889, and heard them talking among themselves of their prowess. Some put forward claims which the others derided. Any estimate in excess of the one I have already given called forth uncomplimentary remarks and charges of boastfulness. The disinclination of these men to state the absolute facts, and they alone know what the facts are, in relation to the number of seals shot and lost, has been intensified lately by the feeling that it is necessary for them to make a good showing to back up the claim that pelagic sealing is not absolutely destructive of the seal herd.

Only the head of a seal appears for them to aim at. They are shooting at a moving object from a moving boat, and it is fatal, and pretend that 95 per cent of their shots are absurd to that all the seals they kill are picked up before sinking. It is as absurd as though a hunter on land should boast of killing 95 per cent of all the birds he aimed at. There are a few good seal hunters whose loss does not exceed 25 per cent, but they are as well known in the North as champion baseball players in America, and form but a small proportion of the 200 seal hunters who signed for the trip this year.

T. T. Williams, p. 504. Many of the seals I have speared had shot and bullets in them. This was never seen before until about eight years ago, and now it is a frequent occurrence.

Thos. Zolnoks, p. 398. A great many that I have caught in the last three or four years have shot in them, and many have been badly wounded.

SINKING.

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The white hunter in a boat, when a seal appears on the surface, if within 50 yards, fires at it. If killed outright, the seal immediately sinks, and the boat is rowed for the place where it sank; but I do not think they recover many seals thus killed, and every sealer stated that they seldom expected to get a seal when killed outright. It is almost impracticable to take a seal in the water unless it is wounded so that it is stunned, when it goes into a "flurry," similar to that of a whale when wounded. The boat then being pulled alongside, the seal is gaffed and dragged into it.

In sleeping, the seal's head is to leeward and the steerer will endeavor to work the boat so as to approach from that direction and give the hunter an opportunity to shoot the seal in the back of the neck. When so shot they take longer to sink than when shot in the face; that is, if a seal bobs up in the water, its body being in a submerged and horizontal position, and if it be instantly killed by the shot it will at once sink. It is then that the 8 or 10 foot gaff is used to recover it. It has been my observation that the rapidity with which seals sink is influenced by several conditions. A pregnant female will sink less quickly than a male of equal size. If a seal be shot at a time when the air is well exhausted in the lungs it will sink more quickly than if killed when the lungs are inflated. If a seal is asleep and shot in the back of the head it will float for several minutes, thus enabling the hunter to secure it.

Only such seals as are instantly disabled can be secured, and even many of these must be lost, since the specific gravity of a dead seal is greater than that of the water in which it is killed.

Dr. J. A. Allen, vol. 1, p. 409.

N. W. Anderson, p. 223. If seals are shot dead they must be picked up at once or they will sink.

The females sink almost immediately when shot, if heavy with young. *Chas. Avery, p. 218.*

When a seal is killed dead, he will sink very quick, which is the reason I never shoot them unless they are so near the boat that I can secure them. Seal are always shot in the head when possible. *Adam Ayonkee, p. 255.*

We tried to shoot the seals in the head or heart, for if we shot them in any other place we would lose them, and if we killed them dead they would sink and many of them we could not get. *Bernhardt Bleidner, p. 315.*

Seal when shot dead sink very quick, and are hard to secure under those conditions. *Wilton C. Bennett, p. 356.*

When seals are shot when they first put their heads above water they sink at once and are hard to secure. Always try to shoot seal in the head. If head is not exposed, we shoot them in other parts of the body. *Martin Benson, p. 405.*

Fur-seals sink almost instantly after being struck and unless picked up immediately can not be recovered. *J. A. Bradley, p. 227.*

A great many seals that are shot would sink before we could secure them. Sometimes the water above the sinking seal would be so discolored by the blood that it was impossible to see it and secure it with the gaff-hook, which all sealing boats carry for that purpose. *Henry Brown, p. 318.*

If we didn't get to a seal soon after it was shot it would sink, and we lost a great many; probably got about one out of five of all the seals shot. *Thos. Brown (No. 1), p. 319.*

I lost a great many that were killed by their sinking before we could get to them. *Jas. L. Carthcut, p. 409.*

When seal are shot dead they almost instantly sink and are hard to secure. *S. Chinkootin, p. 257.*

Fur-seals when shot dead, sink almost immediately. *Julius Christiansen, p. 219.*

If seal are instantly killed they will sink very quick, and are harder to secure under those conditions than they would be if badly wounded. *Peter Church, p. 257.*

Sometimes I would kill the seal dead and it would sink in the water almost as quickly as a rock, and unless we were quick to reach it, it would be lost. Sometimes we fish them up out of the water with a gaff hook, and would secure a few that way. *Jas. Claplanhoo, p. 382.*

If we killed them too dead a great many would sink before we could get them and were lost. Sometimes we could get some of these that had sunk with the gaff hook, but could not save many that way.

About two years ago I began to hunt with guns, but always carried a spear. Since I have been hunting with guns I lose a great many seals that I shoot. I kill some dead and they sink like a rock.

Wm. Foster, p. 220. From my own experience, and what I have been told by other hunters, about one-half of the seals killed sink. * * * A seal, if shot dead, will sink almost immediately.

Most all the seals sunk or dove out of sight when killed or wounded and a great many of them we could not get.

Wm. Frazer, p. 427. When we shot the seals dead they would sink and we would not get them.

When seals are shot in the head and instantly killed they will sink at once and are hard to secure under those conditions.

Jas. Gondowen, p. 259. Large seals sink rapidly, while the smaller ones float a few minutes.

Nicoli Gregoroff et al., p. 234. Fur-seals sink almost invariably in less than three minutes after being killed, and gravid cows much quicker.

A. J. Guild, p. 232. They should be approached from the lee side quietly, and picked up as soon after being struck as possible in order to secure them.

Q. According to your experience, what percentage of animals that are shot at are actually taken by the boats?—A. *Chas. H. Hagman, p. 435.* Most all of them; very few escape. Maybe out of the whole year's catch of a couple of thousand a dozen may sink. It is a rare occurrence that they sink.

I do not think we got over one-half that we killed and wounded. Have seen six out of seven killed sink and were lost before we could get to them. This happened last year in a boat I was in.

All fur-seals sink rapidly after being killed, and females heavy with young go down soonest; a great deal depends on the way a seal is shot, however.

Norman Hodgson, p. 367. If the seal be shot with the head down, as in the act of diving, its momentum sends it under for a moment or two, when it will quickly rise to the surface and float until the air in its body escapes, which generally occupies anywhere from five to ten minutes. A seal shot with its head up almost always sinks instantly.

Fur-seals shot when sleeping occasionally go down at once, but the rule is for them to float for three or four minutes. They should be approached from the leeward, and if shot in the back of the head may almost invariably be recovered.

When seal are killed dead they sink very quick, especially if killed when they first put their head above water, as they do not have a chance to take breath. Most all seal are shot in the head when it is possible to do so. *E. Hofstad, p. 260.*

If a seal is killed when its head first comes above water, it sinks at once. Under those conditions they are hard to secure. Seal are always shot in the head when possible, but never miss a shot at them if only a small part of the body is exposed. *P. Kahiktday, p. 261.*

If a seal is shot and killed instantly he will sink very quick. *Philip Kashevaroff, p. 262.*

Firearms (rifles and shotguns) are used almost exclusively. All seals sink quickly, but those shot through the head and killed remain on the surface longest. *Frank Korth, p. 235.*

If seal are shot dead, they sink at once and it is hard to secure them. Seal are shot in the head when it is possible to do so. *Jno. Kowincet, p. 264.*

Seal, when instantly killed, will always sink quick. I always shoot seal in the head when possible. *Geo. Lacheek, p. 265.*

To secure a fur-seal it is best to shoot it through the body, as it will float longer than if shot through the head. Male fur-seal sink almost instantly when shot dead, while a pregnant female will float for several minutes. *E. L. Lawson, p. 221.*

The practice of using shotguns charged with buckshot is working havoc in the seal herd. The shots scatter, and many animals are wounded and escape that afterwards die of their wounds. This is conclusively proved by the fact that many skins known to the trade as "stinkers" are brought in and offered for sale; so called because they have been taken by passing vessels from seals found dead on the surface of the water. It is well known that seals which are killed at sea and sink beyond the reach of the hunter's gall rise to the surface after decomposition sets in. Naturally, those thus picked up are but a small part of the number that actually perish in the water in consequence of their wounds. *Isaac Liebes, p. 453.*

When a seal is shot dead it almost instantly sinks, and it is only secured by stunning it. *Wm. H. Long, p. 458.*

Cow seal with pup will float lighter than a male when killed. *Geo. McAlpine, p. 266.*

We always shoot seal in the head when possible. If head is not exposed, we shoot them in the most exposed part of their body. When a seal is killed instantly he will sink at once, and is hard to secure under those conditions.

The hunters lost a good many of the seals that they shot, because they could not get up quick enough to get them before they would sink. We would use a hook to spear them, but sometimes we could not often get hold of them even with that. The bulls generally sunk quicker than female seals.

I have no doubt that in obtaining the skins [416 in number] found on the *J. H. Lewis* the poachers must have killed from 1,500 to 2,000 seals, as when vitally shot seals will usually sink before it is possible to capture them.

When the seals were shot they would sink to the bottom. You have got to hurry up and pull to them quickly after shooting, or they will sink. A great many were shot that we could not get, as they sunk before we got to them.

A good many would sink when we shot them and would go down like a stone and were lost, and nearly all the wounded ones would get away. Those that we would kill, we would try to get up to them before they would sink and get them with the gaff hook, but we could not get many that way. We carried two gaff hooks to each boat.

G. E. Miner, p. 466. If a seal is killed instantly when he first puts his head above water he will sink at once.

A female seal will sink much quicker after she has given birth to her young than before. We are more sure of getting a sleeping seal than one that is breaching.

If shot in the head a seal will usually float, and is taken. If shot through the body it usually sinks, or escapes to die later. When shotgun is used about one seal is secured for five shots; those not secured generally sink at once, or are badly wounded and escape to die. Of seals shot dead, about one-half sink at once and one-half are taken.

If killed outright, the seal sinks almost immediately and in nearly every case is lost. When so wounded that it is unable to dive, it goes into a "flurry," and the boat being pulled up rapidly, it is gaffed and dragged on board. The gaff used by seal-hunters is about 5 feet in length.

When seal are shot as soon as they put their heads above water, they sink immediately and are hard to secure. Always shoot seal in the head when possible. If not possible to shoot them in the head, then I shoot them in the most exposed part of their bodies.

When a seal has his nose out of water and you shoot him, he will sink at once, and if you shoot a seal and he turns his nose out of the water, he will sink immediately and is hard to secure under those conditions. *Fred. Smith, p. 349.*

Fur-seals taken in the open sea must be struck in moderately calm weather, and picked up immediately afterwards in order to secure them before sinking. *J. W. Smith, p. 233.*

A great many seals are lost in hunting them by sinking before the boats can get to them, and a great many are badly wounded and escape. *John A. Swain, p. 350.*

A much larger per cent is lost when the rifle is used, as the seal sink very quickly after being shot. * * * When seal are shot dead they sink very rapidly. Seal are always shot in the head when it is possible to do so. *Charlie Tlaksatan, p. 270.*

If a seal is shot dead he will sink at once. You have got to get to them at once, or else you will lose them. The object is to wound them so that they will flop around on the water. *Adolph W. Thompson, p. 486.*

When seal are asleep lying with their heads on the water and are killed, they most always float, but if shot as they put their heads out of water they sink almost immediately. Always shoot a seal in the head when it is possible to do so. *Peter Trearsheit, p. 271.*

If I kill a seal right dead, it sinks almost as quick as a rock, and if it is slightly wounded they run away and are lost. *John Tysum, p. 394.*

If the seal are instantly killed they sink at once and are hard to secure. Seal are always shot in the head when possible. *Jas. Unatajim, p. 271.*

Some seal when shot and killed dead sink at once. *Rudolph Walton, p. 272.*

When seal are killed dead they sink almost instantly. All seal are shot in the head when it is possible to do so. *Charlie Wank, p. 273.*

Hunters shoot all seal in the head when it is possible to do so and take their chances of its sinking before they can reach them. *P. S. Weittenhiller, p. 274.*

A great many that we shoot sink. *John Woodruff, p. 506.*

When a seal is shot dead he sinks at once. Seal are always shot in the head whenever it is possible to do so. *Michael Wooskoot, p. 274.*

The present practice in pelagic sealing is to shoot them from a boat with a shotgun and secure them with a short-handed gaff. If killed instantly, they are apt to sink, unless picked up immediately. If wounded, they may be gaffed in their "flurry."

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I can also tell by examining a skin whether it has been taken from a female or male. I have examined and sorted a great many thousand skins taken from sealing schooners, and have observed that they are nearly all females, a few being old bulls and yearlings. A female seal has a smaller head and a larger belly when with young than a male seal, and the fur on the belly part, where the teats are, in consequence of being worn, is not worth much, and has to be cut off after being dyed.

The skins of the male and female animal are readily distinguishable from each other in the adult stage by reason of the difference in the shape of the heads. That the Copper and Alaska skins are almost exclusively the skins of the male animal, and the skins of the Northwest catch are at least 80 per cent of the skins of the female animal. That prior to and in preparation for making this deposition deponent says he carefully looked through two large lots of skins now in his warehouse for the especial purpose of estimating the percentage of female skins found among the Northwest catch, and he believes the above estimate to be accurate.

That the skins in the Northwest catch are also pierced with shot and spear marks, in consequence of having been killed in the open water instead of upon land by club.

The great majority of the skins sold from the Northwest catch are the skins of female seals. Deponent is not able to state exactly what proportion of such skins are the skins of females, but estimates it to be at least 85 per cent, and the skins of females are readily distinguishable from those of the males by reason of the fact that on the breast and on the belly of the bearing female there is comparatively little fur, whereas on the skins of the male seals the fur is evenly distributed; and also by reason of the fact that the female seal has a narrow head and the male seal a broad head and neck; and the skins of this catch are also distinguishable from the "Alaska" and "Copper" catch by reason of the fact that the seals are killed by bullets or buckshot, or speared, and not, as on the Pribilof and Commander Islands, by clubs. Marks of such bullets or buckshot or spears are clearly discernible in the skins, and there is a marked difference in the commercial value of the female skins and of the male skins. This fact, that the Northwest skins are so largely the skins of females, is further evidenced by the fact that in many of the early sales of such skins they are classified in deponent's books as the skins of "females."

And in the same way deponent thinks from his own personal experience in handling skins that he would have no difficulty whatever in separating the skins of the Northwest catch from the skins of the Alaska catch by reason of the fact that they are the skins almost exclusively of females, and also that the fur upon the bearing female seals is much thinner than upon the skin of the male seals; the skin of the animal while pregnant being extended and the fur extended over a large area.

Alfred Fraser, p. 558.

That the said firm can distinguish very readily the source of production of the skins when the latter are in their undressed state; that for several years besides the skins of the regular companies, such as the Alaska Company (American concessionaire) and the Copper Company (Russian concessionaire) the said firm has bought quantities of skins called Northwest Coast, Victoria, etc. That these skins are those of animals caught in the open sea by persons who apparently derive therefrom large profits, and nearly three-quarters of them are those of females and pups, these probably being less difficult to take than the males; that these animals are taken by being shot.

Emin Hertz, p. 558 (French furrier).

That the seals taken by the Alaska and Copper companies are males; the destruction of which is much less prejudicial to the preservation of the race, and which furnish the best skins, these being finer and more furnished with down; that they are killed on the islands with clubs. That every animal killed by ball or shot bears the traces of such slaughter, which marks greatly depreciate the value of the skin.

An essential point of difference between the skins of the Northwest catch and the skins of the Alaska and Copper Island catches consists in the fact that most of the Northwest skins are the skins of the female seal, while the Copper and Alaska skins are of the male seal. Deponent has made no computation or examination which would enable him to say specifically what proportion of the Northwest catch are the skins of the female seal, but it is the fact that the great majority, deponent would say 75 to 80 per cent, of the skins of this catch are the skins of the female animal. The skins of the male seal and of the female seal may be as readily distinguished as the skins of the different sexes of any other animal. The skins of the female seal, for instance, show the marks of the breast, and the fur upon the belly is thinner, and the whole of the fur is also finer, lower in pile; that is, the fibers composing the fur are shorter than in the case of the male seal. Another means of distinguishing the female skins from the skins of the male lies in the fact that the skins of the female are narrower at the head and tail and are proportionately wider in the belly than the skins of the male seal. Another means of distinguishing the seals of the Northwest catch from the skins of the Copper Island and Alaska catches consists in the fact that nearly all the skins of this catch have holes in them, which deponent understands is caused by the fact that the seals from which they are taken have been shot or speared in the open sea, and not, as is the case with the seals from which the skins of Copper Island and Alaska catches are taken and killed, with clubs upon land.

Walter E. Martin, p. 569.

Both the Copper Island skins and the Alaska skins are almost exclusively the skins of male seals, and the difference between the skin of a male seal and a female seal of adult age can be as readily seen as between the skins of different sexes of other animals. That the Northwest skins are, in turn, distinguishable from the Copper Island and Alaska skins, first, by reason of the fact that a very large proportion of the adult skins are obviously the skins of female animals; second, because they are all pierced with a spear or harpoon or shot, in consequence of being killed in open sea, and not, as in the case of Copper Island and Alaska skins, being killed upon land by clubs; third, because the Northwest skins are cured upon vessels by the crews of which they are killed, upon which there are not the same facilities for flaying or salting the skins as there are upon land, where the Copper and Alaska skins are flayed and salted.

The Japanese skins, which, I think, are now included in the Northwest catch, are distinguishable from the other skins of the Northwest catch by being yellower in color, having a much shorter pile, because they are salted with fine salt, and have plenty of blubber on the pelt. That the skins purchased by deponent's firm are handed over by it to what are called dressers and dyers, for the purpose of being dressed and dyed.

The skins taken in the North Pacific and Bering Sea by hunters are of the same nature as those taken on the Pribilof Islands, but are of less value, owing to the fact that they are taken at all seasons of the year. Part of them are stogy, some are full of holes from being shot, and the fur on the belly of quite a number of the female seals giving milk is of little value. I have handled and examined many thousands of skins purchased from hunters who had taken them along the coast and in Bering Sea. Fully 80 per cent of them were females, which skins were readily distinguishable.

That the differences between the skins of the adult male seals and the adult female seals are as marked as the differences between the skins of the two sexes of other animals, and that in the Northwest catch from 85 to 90 per cent of the skins are of the female animal.

Deponent does not mean to state that these figures are mathematically accurate, but they are, in his judgment, approximately exact.

I should estimate the proportion of female skins included within the Northwest catch at at least 75 per cent, and I should not be surprised nor feel inclined to contradict an estimate of upwards of 90 per cent. My sorter, who actually handles the skins, estimates the number of female skins in the Northwest catch at 90 per cent.

One means of distinguishing the skins of the Northwest catch from those of the other catches is the fact that they are pierced with shot or spear holes, having been killed in the open sea, and not, as in the case of the Copper and Alaska catches, killed upon land, with clubs.

The number of Japanese skins averages, deponent should say, about 5,000 a year, although there is a good deal of fluctuation in the quantity from year to year, and deponent says that, like the other skins included in

the Northwest catch, they are principally the skins of female seals, not easily distinguishable from the skins taken from the herds frequenting the eastern part of the Pacific Ocean and Bering Sea, except by reason of their being principally speared instead of shot.

The most essential difference between the Northwest skins and the Alaska and Copper catches is that the Northwest skins, so far as they are skins of adult seals, are almost exclusively the skins of female seals and are nearly always pierced with shot, bullet, or spear holes.

The skins of the adult female seal may be as readily distinguishable from the skins of the adult male as the skins of the different sexes of other animals; that practically the whole of the adult Northwest catch seals were the skins of female seals, but the skins of the younger animals included within this Northwest catch, of which we have at times a considerable number, are much more difficult to separate into male and female skins, and I am not prepared to say that I could distinguish the male from the female skins of young animals.

A certain percentage of young animals is found among the consignments received by us at the beginning of each season, which we understand and are informed are the skins of seals caught in the Pacific Ocean off the west coast of America, but a much smaller percentage of such small skins is found among the consignments later in the season, which we are informed are of seals caught in the Bering Sea.

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Relative to matter of depletion of seal herds of the Pribilof Islands, this most deplorable fact is due in our opinion in great part, if not entirely, to the action of seal-ers in the indiscriminate killing of these animals while in transit to and from these islands for breeding purposes, the females being killed in much greater proportionate numbers, owing to their less aggressive nature and their being less able to escape. While on their way to these islands, the cow (female) seal is in a condition of pregnancy, the period of gestation ending shortly after their landing. If intercepted and killed while in this condition the loss is obvious.

In 1890 I examined 14,000 fur-seal skins that were brought down on a tender from Sand Point, Alaska. That was the entire catch of the Victoria sealing fleet up to that time, the middle of June. It was transferred at Sand Point so that the schooners which had the catch on board could enter the Bering Sea clear of all skins, in case they might be overtaken and searched by revenue cutters. The proportion of females in this lot was over 90 per cent. It was very easy to distinguish the males from the females on account of the formation of their heads, the belly being swollen out of shape, the teats showing signs of development, and also showing that the seal had been full of young and had evidently been cut open and the young removed. There were also some black pups among the lot, which are the skins of unborn seals and have no commercial value. * * *

I also examined a portion of the catch brought to Victoria in 1891, and the same conditions as to females existed as in the previous year, except that there was a larger proportion of yearling skins among them.

I have also examined skins taken by hunters from the Bering Sea, and there is even a greater proportion of females than among those taken on the coast. It is easier to distinguish the females in the Bering Sea skins, for the teats are fully developed from the seals suckling their young and they are caught while in the sea searching for food. The fur on the belly of these female seals is very poor and thin, owing to the swelling and fever in the teats, caused by suckling. Oftentimes female skins are found with big bare spots round the teats, due to the same cause.

At that time [1865] he made his purchases from the Indians on the western coast of the American continent, who offered to him only the skins of female seals; that the price he originally paid for them was as low as 50 cents per skin; that he offered the Indians a much higher price for male skins, and was told by them that the male seals could not be caught, and that many Indians whom he has personally seen kill seals and from whom he has bought skins, have told him that male seals and the young cubs were too active to be caught and that it was only the female seals heavy with young which they could catch. The males, for instance, as deponent was told by the seal-hunters, come up to the surface of the water after diving often as much as a mile from the place they went down, whereas the females can, when pregnant, hardly dive at all.

Deponent says that from his own observation of live seals during many years, and from his personal inspection of the skins, he knows the difference between the skin of a female seal and a male seal to be very marked, and that the two are easily distinguishable. The skin of a female seal shows the marks of the breasts, about which there is no fur. The belly of the female seal is barren of fur also, whereas on the male the fur is thick and evenly distributed. The female seal has a much narrower head than the male seal, and this difference is apparent in the skins; also that the differences between the male and female skins are so marked that there is now and always has been a difference in the price of the two of from 300 to 500 per cent. For example, at the last sales in London, on the 22d day of January, 1892, there were sold 30,000 female skins at a price of 40 shillings apiece, and 13,000 male seals at a price of 130 shillings apiece on an average.

Second. That from the year 1864 down to the present day deponent or his firm have been large purchasers of seal-skins on the western coast of America from the Indians and residents on the British coast; and deponent believes that he has handled nearly three-fourths of the catch from that time down to the present. That during the whole of this period he has purchased from 3,000 to 40,000 seal-skins a year, and that he has personally inspected and physically handled the most of the skins so bought by him or his firm.

That from the year 1880 he has been in the habit of buying skins from American and English vessels engaged in what is now known as poaching, and that he has personally inspected every cargo bought and seen unloaded from the poaching vessels, and subsequently seen and superintended the unpacking of the same in his own warehouse; that the most of the skins above mentioned as purchased by him have been bought from the poaching vessels, and that of the skins so bought from the vessels known as poachers, deponent says that at least 90 per cent of the total number of skins were those of female seals, and that the skins of male seals found among those cargoes were the skins of very

small animals, not exceeding two years of age, and further, that the age of the seal may be told accurately from the size of its skin.

Third. That the skins bought at Victoria from the poaching vessels are shipped by him largely to the firm of C. M. Lampson & Co., in London, who are the largest sellers of skins in the world and the agents of deponent's firm. That he has been through the establishment of C. M. Lampson & Co., in London, very frequently. That he has frequently heard stated by the superintendent thereof that the great majority of the skins received by them from what is called the "Northwest catch," that is, the Northwest Coast of Victoria, are the skins of seals caught by vessels in the open Pacific or the Bering Sea, and that a large proportion of said skins, amounting to at least 90 per cent, were in his, the said superintendent's, judgment obviously the skins of female seals.

Fourth. That deponent has frequently requested the captains of the poaching vessels sailing from the port of Victoria and other ports to obtain the skins of male seals, and stated that he would give twice as much money, or even more, for such skins than he would pay for the skins of female seals. Each and all of the captains so approached laughed at the idea of catching male seals in the open sea, and said that it was impossible for them to do it, and that they could not catch male seals unless they could get upon the islands, which, except once in a long while, they were unable to do in consequence of the restrictions imposed by the United States Government; because they said the males were more active and could outswim any boat which their several vessels had, and that it was only the female seals who were heavy with young which could be caught. Among the captains of vessels with whom deponent has talked, and who have stated to him that they were unable to catch anything but female seals, are the following:

Captain Cathcart, an American now about 75 years of age, who commanded the schooner *San Diego*, and who subsequently commanded other vessels; Capt. Harry Harmson, Capt. George W. Littlejohn, Capt. A. Carlson, Gustav Sundvall, and others, whose names he does not now remember.

I find in handling the skins taken in Bering Sea that the teats of those from the cow seals are much larger and more developed than from the ones taken in the North Pacific before they have given birth to their young; and the fur on the belly of the former is thinner and poorer than on the latter, as the result, I suppose, of the heat and distention of the udder consequent upon giving milk. *Isaac Liebes, p. 455.*

In my examination of skins offered for sale by sealing schooners, I found that over 90 per cent were skins taken from females. The sides of the female skin are swollen, and are wider on the belly than those of the males. The teats are very discernible on the females, and it can be plainly seen where the young have been suckling. The head of the females is also much narrower. *Sidney Liebes, p. 516.*

I have bought and examined the catch of a great many sealing schooners during the last ten years, and have observed that 85 to 90 per cent of skins taken were from female seals, which I could distinguish by a *John N. Lofstad, p. 516.*

glance, from the shape of the skins, texture of the fur, and development of the teats.

I have read the affidavit of John J. Phelan, verified the 18th day of June, 1892. I was present at the examination of seal-skins therein referred to. While Phelan inspected all of these seal-skins I assisted him in the inspection of about three-fourths of them. I know that of those we inspected jointly none were improperly classed as the skins of female animals.

I was visiting in San Francisco in the winter of 1890-'91, and I worked in a fur store during several months of my stay there, and I was called on to handle and inspect thousands of the skins taken by schooners in Bering Sea, and they were nearly all cow seal skins.

I assort the furs into different classes and qualities and usually divide them into four grades—first, second, third, and fourth.

Chestoqua Peterson, p. 393. The first class is composed mostly of the skins of full-grown cows. I distinguish the skins of males from those of cows because the skins of the cows have white whiskers and those of males black whiskers.

The second class I place the skins of younger seals that are 2 years old and over. They all have black whiskers, both male and female, except perhaps a few seals, whose whiskers are beginning to turn white.

The third class I place the skins of all seals that are less than 2 years old, excepting the gray pups.

The fourth class I put the gray pups.

The third and fourth classes are about half male and half female. About one-third of all the skins taken here are graded as first-class skins, and are mostly female skins. In former years the Indians would take a greater proportion of pups than they do now. I know this because of the skins that are offered for sale now. In the schooner *James G. Swan* this year the Indians captured 198 skins, and among the whole lot there were only 2 skins of pups. The seals taken far off the shore are larger than those caught near the coast or in the straits.

In buying the catch of schooners engaged in the sealing business, I have observed that fully 75 per cent of them were females and had either given birth to their young or were heavy in pup when killed, which was easily observed by the width of the skin of the belly and the small head and development of the teat.

While the Northwest Coast catches have of late years placed upon the market comparatively cheap skins, and in that way perhaps benefited my particular business, yet I recognize the fact that such benefit can only be of temporary duration, for I have always noticed that these catches are largely composed of female skins, and I know that to kill female animals seriously impairs the herd.

The first consignment was placed in cold storage at the Central Stores in New York City. A short time since I consented, at the request of the United States Government, that this consignment be examined, in order to determine how many female skins it contained. To perform the examination I detailed John J. Phelan. This man has been in the employ of my father or of myself since the year 1868. I regard him as one of the most competent and trustworthy men in our service. I have read an affidavit verified by him on the 18th of June. I agree entirely with what he says concerning his experience in the handling and dressing of skins, and from what I know of his character and ability I believe that everything stated by him in this affidavit is correct. *Gco. H. Treadwell, p. 524.*

That the skins of the Northwest catch are, deponent would say, at least nine-tenths of them, skins of female seals. The skins of the female seals are as readily distinguishable, before being dressed and dyed, from the skins of male seals as the skin of a bitch and the skin of a dog, or the skin of any other female animal from that of the male of the same family. The females always have narrower heads than the males, and the breasts afford another ready means of identification of female seals. *Henry Treadwell, p. 525.*

It is true that the Northwest Coast catches have of late years placed upon the market a certain number of good skins which could be purchased at prices far below those for which skins of the Alaska catch were sold. But I realize that this can not continue to be the case, for it is a matter of common knowledge amongst furriers that these Northwest Coast catches are composed mainly of the skins of female animals, and I understand that the killing of female seals is rapidly impairing the value of the herd. *Samuel Ullmann, p. 527.*

I have for many years personally examined numerous shipments of Northwest Coast skins purchased at Victoria. I have had such experience in handling fur-seal skins as enables me, readily in most cases, but always upon careful examination, to distinguish a female skin from a male skin, and I know it to be a fact that a very large proportion of the skins in such shipments are those taken from female animals. It is also true that a large number of skins in many of these shipments are rendered almost valueless through the numerous bullet holes which they contain. *Samuel Ullmann, p. 533.*

I have observed that by far the larger portion of skins purchased by me were taken from female seals. Not less than eight out of every ten were from cows with pup or in milk. *C. T. Wagner, p. 211.*

During the past two years I have handled large numbers of Northwest Coast skins (*i. e.*, skins of animals taken in the Pacific Ocean or in Bering Sea). I have assorted all of them, and in doing so have specially noticed the fact that a very large proportion were skins of female animals. To determine this fact in the case of dressed skins I see whether there are any teat holes. I never call a skin a female skin unless I can find two such holes on either side. These holes can be easily distinguished from bullet or buckshot holes, of which there are generally a *Wm. Wiepert, p. 535.*

great number in Northwest Coast skins. In the ease of a shot hole it is always evident that the surrounding fur has been abruptly cut off, while around the edge of a teat hole the fur gradually shortens as it reaches the edge and naturally ceases to grow at the edge.

I have just looked over an original ease of ninety dressed and dyed Northwest Coast fur-seal skins, which have been lately received from London, and were still under seals placed on them in London. I found that of these ninety skins nine only were those of male animals.

Deponent further says that the skins of the Northwest catch are almost entirely the skins of females. That the
C. A. Williams, p. 537. skins of males and the skins of females may be as readily distinguished from each other as the skins of the different sexes of any other animals, when seen before being dyed and dressed, and that the reason why the skins of this catch are almost exclusively females is that the male seal is much more active and much more able to escape from the boats engaged in this manner of hunting than the female seal, and that a large number of the female seals included in the Northwest catch are of animals heavy with young. A large number of females are also caught on their way from and to the Pribilof Islands and their feeding grounds before and after the delivery of their young on those islands.

A statement is attached hereto, prepared by deponent, giving his estimate of the number of female seals killed by
C. A. Williams, p. 540. pelagic hunting in the past twenty-one years.

That for the last fifteen years he has had consigned to him by fur dealers from 8,000 to 10,000 seal-skins annually, for the purpose of dressing and dyeing the same; that about 50 per cent
Jos. D. Williams, p. 548. of the skins so received by him came from London in casks marked as they are catalogued by C. M. Lampson & Co., and are the skins belonging to what is known as the "Northwest catch;" and deponent is informed and believes that the Northwest catch, as the term is used in the trade, means the skins of seals caught in the open sea and not upon the islands. Another reason for this belief is the fact that all of the skins of the Northwest catch contain marks showing that the animal has been killed by bullets or buckshot, the skins being pierced by the shot, whereas the skins killed on the American and Russian islands are killed on land by clubs and are not pierced.

That of the skins of the Northwest catch coming into his hands for treatment probably all are the skins of the female seal, and that the same can be distinguished from the skins of the male seal by reason of the breasts and of the thinness of the fur around the same and upon the belly, most of the female seals being killed while they are bearing their young, and the fur therefore being stretched and thinner over that part of the body; and also for the further reason that the head of the female seal is much narrower than that of the male seal, and that this point of difference is obvious in the skins of the two classes. That of the total number of the skins received by him about 25 per cent are the skins of the "Alaska" and "Copper" catch. That all the skins of the "Alaska" catch are male seals, and an overwhelming proportion of the "Copper" catch are likewise male skins. That the remainder of the skins sent to deponent for dressing and dyeing, as aforesaid, are received by him through the house of Herman Liebes &

Co., of San Francisco, and others; the majority, however, from Herman Liebes & Co. The skins received from the latter sources are from each of the three catches known to the trade as the "Copper," "Alaska," and "Northwest" catch, although the major part thereof belong to what is known as the "Northwest" catch, and are, as in the case of the skins received from London of that catch, all skins of the female seal.

I dress and dye fur-seal skins of the Alaska, Copper, and Northwest Coast catches. I can readily distinguish the skins belonging to each of them. I can also readily tell a female skin from a male skin. The predominance of the former over the latter in the Northwest Coast catch is one of its most distinguishing features. I can not state exactly what the percentage is of each sex, but I am sure that as a rule there are found in the Northwest Coast catches at least ten times as many female skins as male skins. There are various ways of determining the sex of the animal from which seal-skins are taken. Some of them are the following: (1) Female skins have teats, which are easily found even in the salted skin, especially when the animal is over two years of age. (2) The shape of a female skin is narrower at the head and on the shoulders. (3) There is a perceptible difference in the character of the hair of the skins of the two sexes.

In examining and purchasing seal-skins from the schooners in their raw state I have observed that 90 per cent of their catch are females. I know that to be a fact, because the heads of the females are smaller, the bellies larger, and the teats can be plainly seen. The teats show more plainly when the skin is dressed and dyed.

In examining the skins taken by sealing schooners I have found most of them perforated with shot, making them much less valuable thereby. Formerly more of them used to be killed with a rifle, which did not injure the skin as much.

The destruction of seals in the North Pacific Ocean, as well as in the Bering Sea is largely confined to females. This fact can not be disputed successfully. I made an examination of the reports of the gentlemen who handled the North Pacific collection, up to and including the year 1889, and all agreed that the skins were nearly all from females.

It may not be out of place to explain that the smaller value of the female seal, especially after the birth of her pup, is in a measure due to the wearing of the fur around the teats. The amount of merchantable fur being reduced to that extent, makes it necessary for the handlers of skins to observe carefully whether pelts are male or female, as well as their general condition. They make a complete classification, and being experts in their business, are not likely to make mistakes.

DESTRUCTION OF FEMALE SEALS.

EXAMINATION OF PELAGIC CATCH OF 1892.

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On May 7 of this year I examined 355 salted fur-seal skins, ex-stremer *Umatilla* from Victoria, and found the same to be fresh skins taken off the animal within three months. They were killed in the North Pacific. On examination I found they were the skins known as the Northwest

Coast seals, and belong to the herd which have their rookery on the Pribilof Islands. The lot contained 310 skins of the fur-seal cow (matured). From the shape of the skin most all of these cows must have been heavy with pup, and same cut out of them when captured. Eighteen skins of the fur-seal male (matured). Twenty-seven skins of the fur seal gray pup, from 6 to 9 months old; sex doubtful.

On June 2, I examined 78 salted fur-seal skins, ex-steamer *Walla Walla* from Victoria, and found the same to be fresh skins taken off the animal within three months. They were killed in the North Pacific.

On examination I found they were the skins known as the Northwest Coast seals, and belong to the herd which have their rookery on the Pribilof Islands. The lot contained 66 skins of the fur-seal cow (matured). From the shape of the skin most all of these cows must have been heavy with pup, and same cut out of them when captured. Five skins of the fur-seal male (matured). Seven skins of the fur-seal gray pup, from 6 to 9 months old; sex doubtful.

On June 7, I examined 268 salted fur-seal skins ex-steamer *Umatilla* from Victoria, and found the same to be fresh skins taken off the animal within three months. They were killed in the North Pacific. On examination I found they were the skins known as the Northwest Coast seals, and belong to the herd which have their rookery on the Pribilof Islands. The lot contained 212 skins of the fur-seal cow (matured). From the shape of the skin most all of these cows must have been heavy with pup, and same cut out of them when captured. Eleven skins of the fur-seal male (matured). Forty-five skins of the fur-seal gray pup, from 6 to 9 months old; sex doubtful.

On the same date I also examined 124 salted fur-seal skins ex-*Umatilla* from Victoria, and found the same to be fresh skins taken off the animal within three months. They were killed in the North Pacific. On examination I found they were the skins known as the Northwest Coast seals, and belong to the herd which have rookery on the Pribilof Islands. The lot contained 93 skins of the fur-seal cow (matured). From the shape of the skin most all of these cows must have been heavy with pup and the same cut out of them when captured. Fifteen skins of the fur-seal male (matured). Sixteen skins of the fur-seal gray pup, from 6 to 9 months old. Sex doubtful.

I notice on examining seals caught this spring that there is a lack of the larger size of productive animals, and the lots mostly contain the skins of the medium-sized seals, running from 2 to 3 years of age.

On July 13, 1892, I examined 1,342 salted fur-seal skins, ex-schooner *Emma and Louise* from the North Pacific Ocean, *Chas. J. Behlow*, p. 402. and found same to be fresh skins taken off the animal within four months. They were killed in the North Pacific. On examination I find they were the skins known as the Northwest Coast seals, and belong to the herd which have their rookery on the Pribilof Islands. The lot contained 4 skins of the fur-seal, large bulls (breeding bulls); 123 skins of the fur-seal, male (mostly matured); 98 skins of the fur-seal, gray pup, less than 1 year old, sex doubtful; 1,112 skins of the fur-seal, cow (mostly matured). From the shape of the skin most all these cows must have been heavy with pup, and same cut out of them when captured.

On the 29th instant I examined 2,170 salted fur-seal skins ex-schooner *Ed. E. Webster*, that were taken by said schooner *Chas. J. Behlow*, p. 403. off the coast of Japan in the Pacific Ocean. I found them to be fresh skins skinned off the

animal within four months last past, and that they are of the class of skins known as Russian seals, and they belong to the herd having its rookery on the Commander Islands and the Robbins Bank.

The lot contains 320 skins of the fur-seal male (mostly matured); 105 skins of the fur-seal gray pup under one year of age (sex doubtful); 1,745 skins of the fur-seal cow (mostly matured). From the shape of the latter most all of these cows must have been heavy with pup, and the same cut out of them when captured.

On the 26th instant I examined fifteen salted fur-seal skins ex-schooner *Rose Sparks* from the North Pacific Ocean, and found the same to be fresh skins taken off the animal within two months. They were killed in the North Pacific, and that they are of the skins known as the Northwest Coast seals, and belonged to the herd which have their rookery on the Pribilof Islands.

The lot contained 2 skins of the fur-seal (matured); 2 skins of the fur-seal gray pup under one year of age (sex doubtful); 11 skins of the fur-seal cow (matured). And from the shape of the latter most all of these cows must have been heavy with pup, and some cut out of them when captured.

As a result of the work I have performed for so many years I am able to distinguish, without difficulty, the skin of a female seal from that of a male seal. There are generally several ways in which I can tell them apart. One of the surest ways consists in seeing whether any teats can be found. On a female skin above the age of 2 years teats can practically always be discovered: when the animal is over 3 years old, even a person who is not an expert at handling skins can discover two prominent ones on each side of almost every skin. This is because after the age of 3, and often even after 2, almost all females have been in pup. There are also teats on a male skin, but they are only very slightly developed. When the fur is matted, as it is in salted fur-seal skins, the male teats can not be found, but the female teats of skins more than 2 years old can be found under all circumstances.

I have been able to test all my observations as to the teats on salted fur-seal skins by following these skins through the various processes which I have described. During these processes the skins become thinner and thinner, and the teats more and more noticeable, and at an early stage in the dressing they must be wholly removed. There are other ways of distinguishing the skins of the two sexes. I will state a few of them.

A female seal has a narrower head than a male seal. By the word "head" I mean here to include the part of the body from the head down to the middle of the back. I believe all men who have handled the skins of both sexes have noticed this point.

Then, again, when the whiskers have not been cut off they generally afford a safe means of distinguishing the sexes. Male whiskers are much more brittle and of a darker color than those of the female animal. When the male seal is over 6 years old it begins to have a mane, and for this reason it is after that age called a wig.

Finally, it is generally possible for me to tell the skins of the two sexes apart by just taking a look at them or feeling them. I suppose I can do this because I have been at the business so long that I am an expert in it.

The chief classes of seal-skins that I have handled are the Alaska,

the Northwest coast, and the Copper Island skins. I can always distinguish the skins of these classes. The Northwest coast skins are most easily told by the very great proportion of females contained in any given lot. Among the Alaska and Copper skins I have hardly ever seen a female skin.

I was sent to New York from Albany a few days ago by Mr. George H. Treadwell, with instructions to go through a certain lot of seal-skins, which I understand he had recently bought in Victoria, and to find out how many of these skins were taken from female animals. I have spent four days in doing this, working about seven hours a day.

There were several men who unpacked the skins and laid them before me, so that all of my time was spent in examining the individual skins. The lot contained 3,550 skins. I found that, with the possible exception of two dried ones, they were taken from animals this year; they were a part of what is known as the spring catch. I know this to be the case by the fresh appearance of the blubber and of the skin as a whole. This affords a sure way of telling whether the skin has lain in salt all winter or whether it has been recently salted. I personally inspected each one of these skins by itself and kept an accurate record of the result. I divided the skins according to the three following classes: Males, females, and pups. In the class of pups I placed only the skins of animals less than 2 years of age, but without reference to sex.

I found in the lot 395 males, 2,167 females, and 988 pups. Leaving out of account the pups, the percentage of females was therefore about 82.

The great majority of what I classed as male skins were taken from animals less than 3 years of age. There was not a single wig in the lot. On the other hand, nearly all of the female skins were those of full-grown animals. On every skin which I classed among the females I found teats, with bare spots about them on the fur side. Such bare spots make it absolutely certain that these teats were those of female skins.

With regard to the pup skins, I will say that I did not undertake to determine whether they were males or females, because they had a thick coat of blubber, which, in the case of an animal less than 2 years old, makes it very hard to tell the sex.

All of the skins that I examined were either shot or speared. I did not keep a close count, but I am of the opinion that about 75 per cent of them were shot.

The result of the examination is about what I had expected it would be. The figures only confirm what I have always noticed in a general way, that nearly nine-tenths of the skins in any shipment of Northwest coast skins are those of female animals.

DESTRUCTION OF FEMALE SEALS.

TESTIMONY OF PELAGIC SEALERS.

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(See also *Destruction of pregnant females* and *Destruction of nursing females*.)

We cruised around in the sea till the latter part of October, when we started for home. Our entire catch for that season was 1,270 skins. I think we got on an average about two males to ten females.

Chas. Adair, p. 401.

My experience in seal hunting is that a much greater number of females are taken at sea than males of the fur-seal species; and of the females, the majority are pregnant or milking cows. *Andrew Anderson, p. 218.*

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. Yes; I have taken both male and female seals, but I suppose the greater per cent that I have taken would be about 90 per cent females, or even more. *Geo. Ball, p. 482.*

Q. What percentage of the skins you have taken were cows?—A. About 90 per cent, for the simple reason that the bulls are not migrative.

Most all the seals taken by me have been cows. I think cows sleep more and are more easily approached. Never killed but seven old bulls on the coast of Washington in my life, but have taken a few pups every year. *Wilton C. Bennett, p. 356.*

Think the majority of the seals taken are cows. Never killed but two old bulls in my life. Have killed quite a number of yearling seals and some young males 2 or 3 years old. *Edward Benson, p. 277.*

We were sealing about three months and got about 400 seals, most all females. * * * *Thos. Brown (No. 1), p. 319.*

We did not enter Bering Sea, and returned to Victoria in April. Our catch was fully 80 per cent females.

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. Mostly females.

Q. What percentage of the skins you have taken were cows?—A. About 80 per cent. *Daniel Claussen, p. 411.*

From my experience, observation, and conversation with seal hunters, I am of the opinion that fully 75 per cent of their catch are females. *Leander Cox, p. 417.*

That to the best of his knowledge and belief about eight of every ten seals killed in pelagic sealing are females. *John Dohrn, p. 259.*

I saw one schooner's catch examined at Unalaska in 1889, and there were found a large percentage of female seals among them. *M. C. Erskine, p. 422.*

Of those taken probably four out of five are females. *F. F. Feeny, p. 220.*

The seals taken by them [the *C. H. White* and the *Kate Manning*] were nearly all females. *George Fogel, p. 424.*

Have never killed an old bull in my life, nor have I seen one the last few years. *Luke Frank, p. 294.*

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. The majority of them are females. Last year I killed 72, and out of the 72 there was only 3 males.

Q. What percentage of the skins you have taken were cows?—A. About 90 to 95 per cent.

Off Cape Flattery there is hardly a dozen large males taken out of every thousand large seals whose skins are called first class; all the males taken here are small ones.

Thos. Frazer, p. 365.

The next vessel I went on was the *Vanderbilt*. We did not enter the Bering Sea on that trip either. We got about 350 seals, most all females.

Wm. Frazer, p. 427.

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—About 90 per cent of them were females.

Edward W. Funcke, p. 428.

Q. What percentage of the skins you have taken were cows?—A. About 90 per cent.

John Fyfe, p. 429.

We caught about 160 seals before entering the sea. Over 100 of them were cows.

And caught 1,400 seals on that voyage. We caught some a little ways from Victoria, and on the way up to the Bering Sea, but the most of them, about 1,200, we caught in the Bering Sea. I was told by the men that they were nearly all females, and I thought so too, from the milk that I saw in their breasts when they were on the deck. I saw over a hundred little pup seals taken out of the seals, which they threw overboard.

Ceo. Grady, p. 433.

W. P. Griffith, p. 260. To the best of his knowledge and belief about seven of every ten seals killed in pelagic sealing are females.

Females are most plentiful about the Vancouver coast from the middle of May to the end of June, very few others being secured during that period, the males having mostly gone north previously.

A. J. Guild, p. 231.

Q. What sex are the seals taken by you or usually killed by hunting vessels in the North Pacific or Bering Sea?—A. Mostly females. The biggest percentage, I think, are females.

Chas. H. Hagman, p. 435.

Q. What percentage of them are cows?—A. I couldn't tell you.

Q. Out of a hundred seals that you would catch ordinarily, what part of them would be cows?—A. I am under oath, and I could not tell you exactly. All I can say is, the greater portion of them.

Think the seals taken by me have been about equally divided between females and males. Have taken a number of yearling seals and some two and three year old males. Have never killed an old bull.

Henry Haldane, p. 281.

Q. Of what sex are the seals taken by you or usually killed by hunting vessels in the North Pacific and Bering Sea?—

A. Cows altogether; nothing but cows. I never caught a bull in my life and I have got about 10,000 of them. *H. Harmsen, p. 442.*

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. Two-thirds of them are females. *Wm. Henson, p. 483.*

Q. What percentage of the skins you have taken were cows?—A. Two-thirds, I should say.

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. The seals that I have taken were principally females. *Andrew J. Hoffman, p. 446.*

Q. What percentage of the skins you have taken were cows?—A. About 95 per cent of them were cows.

Q. Of what sex are the seals taken by you or usually killed by the hunting vessels in the North Pacific or Bering Sea?—A. Females. *Gustave Isaacson, p. 440.*

Q. What percentage of them are females?—A. It is very seldom that you ever get hold of a male.

Q. Of what sex are the seals taken by you or usually killed by hunting vessels in the North Pacific and Bering Sea?—A. Females, principally. *Frank Johnson, p. 441.*

Q. What percentage of them? For instance, if you kill 100 seals, how many males would you get?—A. Perhaps two. You strike a few bulls when you get further, say, towards the Aleutian Islands.

My experience has been that the sex of the seals usually killed by hunters employed on vessels under my command, both in the ocean and Bering Sea, were cows. I should say that not less than 80 per cent of those caught each year were of that sex. *Jas. Kiernan, p. 450.*

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. Principally females. *Chas. Lutjens, p. 458.*

Q. What percentage of the skins you have taken were cows?—A. About 90 per cent.

We caught about 400 or 500 seals before we got to the Bering Sea. I don't know the precise number. They were bulls and females mixed in, but the general run of them were females. *Wm. McIsaac, p. 461.*

Q. Of what sex are the seals taken by you or usually killed by hunting vessels in the North Pacific or Bering Sea?—A. Principally females. *Alexander McLean, p. 437.*

Q. What would be your judgment as to the percentage? Out of a hundred that you kill, how many of them would be females?—A. Say I would bring 2,000 seals in here. I may have probably about 100 males; that is a large average.

Q. Lots of times there are not nearly as many?—A. No, sir; not near as many.

Q. Of what sex are the seals taken by you, or usually killed by hunting vessels in the North Pacific and Bering Sea?—*Daniel McLean, p. 443.*
A. Females.

Q. What percentage of them are cows? Suppose you catch 100 seals, how many males would you have among them?—A. About 10.

The seals killed by me were about half males and half females. Have killed but one old bull in my life. I have killed quite a number of yearling seals, but never examined them as to sex.
Fredk. Mason, p. 284.

Q. Do you know of what sex the seals were that you have taken in the Pacific and Bering Sea?—A. Mostly females.

Frank Moreau, p. 468. Q. What percentage of the skins you have taken were cows?—A. I should judge about 90 per cent.

Niles Nelson, p. 469. I can not give the exact estimate of the sex, but I know that a large portion of them are females.

We find pups in the cow seals up to the time they get to the Pribilof Islands in June, but when they come off the Pribilof Islands they have bred, and are in milk for the remainder of the killing season.
Niles Nelson, p. 470.

In going up the coast to Unamak Pass we caught about 400 seals, mostly females with young, and put their skins on board the *Danube*, an English steamboat, at Alatak Bay, and after we got into the Bering Sea we caught 220. We had 200 at the time the lieutenant ordered us out of the sea, the remainder we caught after.
John Olsen, p. 471.

We began sealing off Cape Flattery and captured about 300 seals along the coast, most all of which were females and yearlings. We did not capture over 50 males, all told, on this voyage. * * *
Charles Peterson, p. 345.

About 90 per cent of all the seals we captured in the water were female seals. We caught 350 seals along the coast, all of which were females excepting 20.
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I can not tell you from the appearance of a seal in the water whether it is a male or female, but most all of the seals we killed in the water were females.
Adolphus Sayers, p. 473.

Showoosch, p. 243. The majority of seal killed by me have been cows; have killed a few small males.

Q. Do you know of what sex the seals were that you have taken in the Bering Sea?—A. Females.

Gustave Sundrall, p. 480. Q. What percentage of the skins you have taken were cows?—A. About 90 per cent or more.

Jno. C. Tolman, p. 222. From what I have been able to learn the majority of seals taken around Kodiak are females.

In my conversation with men engaged in seal-hunting in the open water of the North Pacific and Bering Sea, I have not been able to get sufficient information to form a reliable estimate of the average number saved out of the total number shot, nor of the percentage of females killed. *Francis Tuttle, p. 488.*

As a rule, hunters are extremely reticent about giving information on the subject to officers of the Government, but from the well-known fact that the female seal is much more easily approached than the male and sleeps more frequently on the water and is less active when carrying her young, I have no doubt that the female is the one that is being killed by the hunter.

I believe the number they secure is small as compared with the number they destroy. Were it males only that they killed the damage would be temporary, but it is mostly females that they kill in the open waters. *Daniel Webster, p. 184.*

It was freely admitted by the pelagic hunters with whom I conversed that but a very small per cent of their catch was males, and I found their statements in this respect verified by the dealers who bought or handled the skins and placed them on the market. They are known to the trade as the "Northwest Coast catch," and I am credibly informed that a portion of the skin on the belly of the female heavy with pup or giving suck to her young is worthless, and that this is one of the chief causes why they are sold so much less than prime skins in the London market. They also further stated that the two most profitable periods for them to catch seal was in the spring of the year, when the females were heavy with pup and frequently found asleep on the water, and in the summer, after the mother seal had given birth to her young and gone out into the sea to feed, at which time she was easily approached. *W. H. Williams, p. 93.*

We shot mostly females.

Geo. Zammitt, p. 507.

I never paid any particular attention as to the exact number or proportion of each sex killed in the Bering Sea, but I do know that the larger portion of them were females, and were mothers giving milk. *Michael White, p. 490.*

DESTRUCTION OF FEMALE SEALS.

EXAMINATION OF CATCH OF VESSELS SEIZED.

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About seven years since I was on the revenue cutter *Corwin* when she seized the sealing schooner *San Diego* in Bering Sea. On the schooner's deck were found the bodies of some twenty seals that had recently been killed. An examination of the bodies disclosed that all of them, with but a single exception, were females, and had their young inside or were giving suck to their young. *Jas. H. Douglass, p. 420.*

Out of some 500 or 600 skins on board I only found some 5 of the number that were taken from males. I have also been present at numerous other seizures of sealing vessels, some eighteen in number, and among the several thousand skins seized I found on examination that

they were almost invariably those of females. There certainly was not a larger proportion of males than five to the hundred skins. This great slaughter of mother seals certainly means a speedy destruction to seal life.

While in Unalaska in September, 1891, awaiting transportation to San Francisco, I had an opportunity to examine personally the catch of the steam sloop *Challenge*, which had been warned out of the sea, and was undergoing repairs at the harbor named. The catch amounted to 172 skins, which were all taken in Bering Sea at various distances from the seal islands, and of this number only three were those of male seals, one of these being an old bull, and the other two being younger males.

In July, 1887, I captured the poaching schooner *Angel Dolly* while she was hovering about the islands. I examined the seal skins she had on board, and about 80 per cent were skins of females. In 1888 or 1889 I examined something like 5,000 skins at Unalaska which had been taken from schooners engaged in pelagic sealing in Bering Sea, and at least 80 to 85 per cent were skins of females.

In 1891 the schooner *J. H. Lewis* was caught near the islands by the Russian gunboat *Aleut* and found to have 416 skins on board. I made a personal examination of these skins, and found that from 90 to 95 per cent were those of female seals. I called the attention of the English commissioners, Sir George Baden-Powell and Dr. G. M. Dawson, to this fact when they visited the islands in 1891, showing them the skins. I opened a few bundles of the skins for their inspection and offered to show all of them, but they said they were satisfied without looking at any more than those already opened. I remember that a schooner from Victoria was also seized at the islands about three years ago by the Russian authorities with 33 skins on board, which were nearly all taken from female seals.

And (2) because I have personally inspected skins taken upon the three schooners *Onward*, *Caroline*, and *Thornton*, which skins taken in Bering Sea were landed in Unalaska and were then personally inspected by me in the month of May, 1887. The total number of skins so examined by me was about 2,000, and of that number at least 80 per cent were the skins of females. I have also examined the skins taken by the United States revenue cutter *Rush* from one of the North Pacific Islands, where they had been deposited by what is known as a poaching schooner and taken to Unalaska, which numbered about 400 skins, and of that 400 skins at least 80 per cent were the skins of female seals. I have also examined the skins seized from the *James Hamilton Lewis* in the year 1891, by the Russian gunboat *Aleut*, numbering 416, of which at least 90 per cent were the skins of female seals, and from my long observation of seals and seal-skins, I am able to tell the difference between the skin of a male and the skin of a female seal.

I examined the skins taken from sealing vessels seized in 1887 and 1889, over 12,000 skins, and of these at least two-thirds or three-fourths were the skins of females.

DESTRUCTION OF PREGNANT FEMALES.

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We caught about 185 seals, mostly females in young, and we killed them while they were asleep on the water. *Chas. Adair, p. 400.*

Most of the seal killed by me have been females with pup. *Akatoo, p. 237.*

A large majority of seal taken on the coast and in Bering Sea are cows, with pup in the Pacific Ocean and with milk in Bering Sea. A few young male seal are taken in the North Pacific Ocean from 2 to 3 years old. Have never taken an old bull in the North Pacific Ocean in my life. A few yearlings have been taken by me, but not many. *Peter Anderson, p. 313.*

We sealed along the coast and captured 154; most all of them were pregnant females. *H. Andricius, p. 314.*

About 90 per cent of those saved are females, and the greater number with young. *Chas. Avery, p. 218.*

Most all seal that I have killed have been pregnant cows. Have taken a few male seals from 1 to 4 years old, I think. Have never killed an old bull. *Adam Ayonkee, p. 255.*

Q. What percentage of the cows you have taken were with pup?—
A. About 99 per cent of the cows taken were with pup; there may be one in a hundred that is either without pup or has had one. *Geo. Ball, p. 482.*

Most all the seals taken are females with pup. *Johnny Baronovitch, p. 276.*

Most of the seals taken by me have been female with pup. Never killed but one old bull in my life. I have killed a good many small bulls and a great many yearling seals, but never examined the latter as to sex. *Maurice Bates, p. 277.*

Seventy-five per cent of the seal taken on the coast are cows with pup. *Martin Benson, p. 405.*

We left Port Townsend in May and sealed south to Cape Flattery and then went north along the coast until we came to Unimak Pass, and captured from three to four hundred seals. Most all were females and had pups in them. I think fully two-thirds of all we caught were females, and a few were bulls. * * *

We secured 500 skins along the coast, most all of which were pregnant females.

I have never killed any full grown cows on the coast that did not have pups in them, and I have hunted all the way from the Columbia River to Barclay Sound. *Bowa-chup, p. 376.*

We left Victoria about May, going north, and sealed all the way to the Bering Sea. We had about sixty before entering the Bering Sea, nearly all of which were females with young pups in them.

Thos. Bradley, p. 406.

The seal captured by us along the coast in 1890 were all gravid females. I do not know the sex of those taken by our Indians on the coast in that year.

Henry Brown, p. 317.

Henry Brown, p. 318. Our last catch of seals on the coast were almost exclusively gravid females.

I think more than one-half the seals caught on the coast are cows that have pups in them. Cows caught in the latter part of May and June have black pups in them, which we sometimes cut out and skin.

Peter Brown, p. 377.

Most all the seals that we shot and secured were females and had young pups in them, and we would sometimes skin them. * * *

Thos. Brown (No. 1), p. 319.

Commenced sealing off Cape Flattery and all the seals which we caught were pregnant females.

We had 250 seals before entering the sea, the largest percentage of which were females, most of them having young pups in them. I saw some of the young pups taken out of them.

Thos. Brown (No. 2), p. 406.

On my last sealing cruise this spring we caught five seals; two of them were females and had pups in them; three of them were young and smaller seals and had black whiskers. None but full-grown cows have white whiskers, but young cows and young bulls have black whiskers. About half of all the seals captured along the coast have white whiskers, and are cows with pups in them. Most all full-grown cows that are caught have pups in them. Once, late in the season, I caught a full-grown barren cow with white whiskers.

Landis Callapa, p. 379.

Majority of seals taken are females with young. We caught a large number of pups in the early part of the season. Did not take particular notice of the sex.

Chas. Campbell, p. 256.

And that 75 per cent of seals shot in the North Pacific Ocean are females heavy with young.

Jno. C. Cantwell, p. 407.

About 85 per cent of my catch of seals along the coast of the North Pacific were females, and most all of them were cows in pup, and I used to kill most of them while asleep on the water.

Jas. L. Carthcut, p. 409.

Most of the seals we killed going up the coast were females heavy with pup. I think 9 out of every 10 were females.

Chas. Challall, p. 411.

Not quite half of all seals caught along the coast are cows with pups in them. About half are young seals, both male and female, and the rest (a small number) are medium-sized males. We never get any old bulls worth speaking of, and we do not catch as many gray pups now as formerly. Have not caught any gray pups this year. Do not know what has become of them. Have never caught any full-grown cows without pups in them, and have never caught any cows in milk along the coast. *Charlie, p. 305.*

Most of the seals killed by me have been females with young. * * * *Simeon Ckin-koo-ton, p. 256.*

The few male seals taken by me I do not know their ages. Quite a number of yearlings are taken, the majority of which are females; have taken a few bulls in my life.

Of those secured, the larger part by far were females, and the majority of these were pregnant cows. *Julius Christiansen, p. 219.*

Most of the seals taken by me have been females with young. A few male seals have been taken by me, their ages ranging from one to five years old. Killed three large bulls during my life. *Peter Church, p. 257.*

A great many years ago we used to catch about one-half cows and one-half young seals. I never caught any seals along the coast that had given birth to their young and that had milk in their breasts. I never captured any barren cows. * * * And we secured ten seals in all, five of which had pups in them. I know this because I saw the pups when we cut the carcasses open. * * * The other five seals were smaller and probably male and female. *Circus Jim, p. 380.*

When sealing along the coast it is seldom that I have seen or captured an old bull. I have caught quite a large number of gray pups or yearlings, and they are about equally male and female. About one-half of all seals that I have caught in the strait or on the coast were full-grown cows with pups in them, and I have never caught a full-grown barren cow, nor one that had given birth to her young, and was in milk. *James Claplanhoo, p. 382.*

About half the seals killed by me have been cows with pup. I never shot but two old bulls in my life. Have shot a few yearling seals. The young male seals I have killed were between two and three years old, I think. *William Clark, p. 293.*

The seals we catch along the coast are nearly all pregnant females. It is seldom we capture an old bull, and what males we get are usually young ones. I have frequently seen cow seals cut open and the unborn pups cut out of them and they would live for several days. This is a frequent occurrence. *Christ Clausen, p. 320.*

Daniel Claussen, p. 411. Q. What percentage of the cows you have taken were with pup?—A. About 70 per cent.

Peter Collins, p. 413. Fully three-fourths of the seals shot in the North Pacific were females with young.

We sailed up along the coast toward Bering Sea and captured five seals, all being gravid females. I noticed these seals particularly, because there were but few of them. I kept a memorandum of the transactions of the voyage, and noted in my book the number of seals taken and their sex.

Majority of seals taken are cows with pup. Once in a while we take an old bull. A few yearlings are taken also.

From 75 per cent to 80 per cent of all the seals taken were mothers in young, and when cut open on deck we found the young within them.

We had between 100 and 300 seals before entering the sea. Most all them were females with pups in them.

Of the seals that were caught off the coast fully 90 out of every 100 had young pups in them. The boats would bring the seals killed on board the vessel and we would take the young pups out and skin them. If the pup is a good, nice one, we would skin it and keep it for ourselves. I had eight such skins myself. Four out of five, if caught in May or June, would be alive when we cut them out of the mothers. One of them we kept for pretty near three weeks alive on deck by feeding it on condensed milk. One of the men finally killed it because it cried so pitifully.

In all of my experience in sealing on this coast I have killed but one cow seal that had milk in her breast, and that had given birth to her pup. I do not know what became of the pup. I have killed a very few barren cows along the coast. Nearly all of the full-grown cows along the coast have pups in them.

Most of the seals caught on the coast are females with pups in them, the balance are mostly young seals, both male and female.

We sealed from San Francisco to Queen Charlotte Island, and caught between 500 and 600 seals, nearly all females heavy with young. I have seen a live young pup taken out of its mother and kept alive for three or four days. We sealed from 10 to 120 miles off the coast.

A large proportion of all seals taken are females with pup. A very few yearlings are taken. Never examine them as to sex. But very few old bulls are taken, but five being taken out of a total of 900 seals taken by my schooner.

We left Victoria the latter end of January, and went south to Cape Blanco, sealing around there two or three months, when we started north to the Bering Sea, sealing all the way up. We had between 200 and 300 seals before entering the sea, a great many of them being females with pups in them. *Richard Dolan, p. 418.*

My information and observation is that a very large proportion of those killed along the coast and at sea from Oregon to the Aleutian Islands are female seals with pups; I think not less than 95 per cent. *Jas. H. Douglass, p. 420.*

The Indians left their homes in March and remained away until May. Their hunting lodges were on some small islands outside of Dundas Island. From what they tell me the majority of seals taken by them have been females with young. *Wm. Duncan, p. 279.*

I have caught 9 seals this year 5 of which had pups in them; the small ones did not have pups in them. * * * *Ellabush, p. 385.*

In the months of January and February the pups in the cows are so small that you will not notice them unless you cut the belly open. All full grown cows that I have killed along the coast had pups in them, and have never killed but one that had given birth to their young and were in milk, and have no recollection of having killed a barren cow. The younger ones do not have pups in them, and are about one-half male and one-half female.

We went north to the Bering Sea, sealing all the way up, and got 110 seals before entering the sea. Most of them were cows, nearly all of which had pups in them. We took some of the pups alive out of the bodies of the females. *Geo. Fairchild, p. 423.*

Most all of the females taken are with young, or mothers. *F. F. Feeny, p. 220.*

There were cow seals with pup among the seals that I have taken, but I don't know how many. I have never taken an old bull in my life. *Chief Frank, p. 280.*

I think the seals taken by me are about half females with pup, and the rest are one and two year old males and yearlings; never examined the yearlings as to sex. *Luke Frank, p. 294.*

Q. What percentage of the cows you have taken were with pup?—
A. All that are killed in the Pacific are with pup, and those that are killed in the Bering Sea have been delivered of pups on the islands and are with milk. *Luther T. Franklin, p. 425.*

Q. In your experience, while you were hunting seals, nearly all the seals that you killed were cows and nearly all had pups?—A. Nearly all the cows that were killed in the Pacific were with pup, and conse- *Luther T. Franklin, p. 426.*

quently the pups were all killed. As I said before, out of 72 seals that I killed, there were only 3 males.

Edward W. Funcke, p. 428. Q. What percentage of the cows you have taken were with pup?—A. About 60 per cent were with pup.

Most all the seals taken by me were females with pup. Most of the seals killed in Bering Sea have been cows with milk. Have never taken a bull seal off the coast of Washington, but have taken a few further north. A few young males are taken off the coast of Washington.

Thos. Gibson, p. 432. I did not pay much attention to the sex of seals we killed in the North Pacific, but know that a great many of them were cows that had pups in them, and we killed most of them while they were asleep on the water.

Jas. Gondowen, p. 259. Most of the seals killed are cows with pup. A few males are killed averaging from 1 to 4 years old. Have killed but one old bull in my life. A few yearlings are taken, the majority of which are females.

Nicoli Gregoroff et al., p. 234. Very few females taken in this region but are pregnant.

We captured 63 seals, all of which were females, and all were pregnant. With regard to pregnancy, I may note that the seals taken off the coast of Vancouver Island were not so far advanced as those taken farther north. * * *

I am acquainted with the hunters and masters who sail from this port, and board all incoming and outgoing vessels of that class. These men all acknowledge that nearly all the seals taken off the Pacific coast are females, and that they are nearly all with young.

We began sealing off the northern coast of California and followed the sealing herd northward, capturing about 700 seals in the North Pacific Ocean, two-thirds of which were females with pup; the balance were young seals, both male and female. We captured between 900 and 1,000 on the coast, most all of which were females with pups.

Jas. Griffin, p. 433. About nine out of ten seal killed in a season are females with pup. But a very few males were taken, their ages ranging from 1 to 4 years. But one old bull was taken in the season.

Jos. Grymes, p. 434. The catch was mostly females. Those we got in the North Pacific were females in pup, and those taken in the Bering Sea were cows giving milk.

A. J. Guild, p. 231. Of the skins taken in this region fully nine-tenths are pregnant and milking females, but I never saw a young pup in the water. Large bulls were never taken, their skins being practically valueless.

Q. What percentage of the cows are taken with pup?—A. All the large ones have—all the grown females have. *Chas. H. Hagman, p. 435.*
Very seldom you find a barren one.

A large majority of seals taken are females with young. Only two old bulls were taken by me last year out of the 100 seals taken. But very few yearlings are *Martin Hannon, p. 445.*
taken. Paid no attention to sex. A few male seals are taken between two and four years old, I think.

Q. What percentage of the cows taken are with pups?—A. You can safely say about four-fifths of them. You get *H. Harmsen, p. 442.*
about 800 out of 1,000 seals.

We commenced sealing right off the coast; went as far south as the California coast and then hunted north to the west coast of Vancouver Islands; caught 500 skins during the season; almost all of them were pregnant females; out of a hundred seals taken about 90 per cent would be females with young pups in them. *Jas. Harrison, p. 326.*

I am told the white hunter kills mostly cow seal with pup. *Sam Hayikahtla, p. 240.*

I have often conversed with masters, seamen, and hunters engaged in hunting the fur-seals, and their statements to me have always been that the capture of a male seal was a rarity; that nearly all of their catch were cow seals heavy with young, or those who had given birth to their young on the islands, and gone out to the fishing bank to feed, and that they lose a large proportion of those killed and wounded. *J. M. Hays, p. 27.*

Q. What percentage of the cows you have taken were with pup?—A. At least 60 per cent were with pup. *Wm. Henson, p. 483.*

Of the seals secured in a season fully 70 per cent are females, and of these more than 60 per cent are pregnant and milking cows. The males taken are about equally divided in numbers between yearlings and bachelors from the ages of 2 to 5 years; bulls are seldom shot. *Norman Hodgson, p. 367.*

Q. What percentage of the cows you have taken were with pup?—A. About the same amount [about 95 per cent] were with pup. *And. J. Hoffman, p. 446.*

Most all seals taken are females with young. * * * A few male seal are taken. I would say they are generally 3 or 4 years old. A few yearlings are killed, mostly females. About five bull seal are killed out of every hundred taken. *E. Hofstad, p. 260.*

About one-half of those caught along the coast were full-grown cows with pups in them; a few were medium-sized males, and the rest were younger seals of both sexes. I have never caught a full-grown cow in the straits or along the coast that did not have a pup in her. *Alfred Irving, p. 388.*

Q. What percentage of the cows taken are with pup?—A. In the early part of the season, up to June, all the full-grown cows are with pup.
Gustave Isaacson, p. 440.
 Q. Did you ever kill any cows whose young were born, and were giving milk?—A. That I don't remember taking notice of. I can not answer that question.

I have hunted seals in the Straits of San Juan de Fuca, forty or fifty miles off Cape Flattery, until about seven years ago; since then I have frequently gone as far south as the Columbia River and to the northward to the far end of Vancouver Island, and fully one-half of the seals we catch are cows with young in them. I have been out sealing once this year and we captured three seals, one of which, in dividing them up, became mine. The one I got was a full-grown cow with a pup in it. In the months of January and February the pups in the cows are so small that one will not notice whether the cow is pregnant or not unless he cuts her open, but later on in the season it may be observed without cutting them open.

The female seals go through the passes from the Pacific Ocean into Bering Sea between June 25th and July 15th.
Victor Jacobson, p. 328. Females killed previous to this time I found with pups, but none with pups after that latter date.

We began to seal when about 20 miles off Cape Flattery. We worked toward the northwest and captured between 60 and 100 seals on the coast, about two-thirds of which were females, with pup; the balance were yearlings consisting of male and female; after which we ran into Barclay Sound for supplies, from which place we worked to the northward toward the Bering Sea. We captured about 80 seals while en route to the sea; about two-thirds of these were females, with pup, the balance being yearlings about one-half male and one-half female.

We began sealing off Barclay Sound and caught three skins only, all of which were females with pup. * * *

In hunting along the coast, I think about 80 per cent of those we caught were females, and most of them were carrying their young. We seldom caught any old bulls but caught a few of the younger males. I have seen the unborn young cut out of the mother seal and live for a week without food. We used to skin some, but threw most of them overboard.

Q. What percentage of the cows that you kill are with pup?—A. That is pretty hard for me to estimate. Many times you strike young seals without pup.
Frank Johnson, p. 441.

Q. The adult females are all with pup?—A. Yes, sir; I have found a good many old ones that are too old to have pups, extra big size seals.

A large majority of the seal taken on the coast are cows with pup. A few young males are taken, the ages ranging from 1 to 5 years. Once in a while an old bull is taken in the North Pacific Ocean.
J. Johnson, p. 331.

Most of the seals taken are females with pup. Once in a while an old bull is killed. *Jack Johnson, p. 282.*

Have been out this season, and caught 13 seals around Cape Flattery, seven of which had pups in them, the balance being young seals, about one-half each of male and female. * * * *Selrish Johnson, p. 388.*

In all of my experience as a seal hunter I have captured but one or two old bulls.

A large proportion of seals killed by me were cows with pup. Have killed a very few old bulls and some yearlings. *Johnnie Johnstin, p. 282.*

Most of the seal I have taken have been pregnant cows. But a very few young male seal are taken by me along the coast. *P. Kahiktday, p. 261.*

The majority of seal are cows with pup. A few males are taken, about four or five years old. *Philip Kashevaroff, p. 262.*

About 50 per cent of the seals taken are cows with pup. Have killed a few old bulls, and have taken a few yearlings every season. *King Kaskwa, p. 295.*

About half of the seals killed are females with pup. Have killed some yearling seals, but never killed an old bull. The young males I killed were between two and three years old. *Jim Kasoooh, p. 296.*

We caught somewhere about 500 seals before entering the sea, of all kinds. There were a good many females among them; there was a good many more of them than males, but the exact number I do not know. The old females had young pups in them. I saw them taken out, and a good many of them skinned. *Jas. Kean, p. 448.*

We sailed from Victoria, British Columbia, and bore due north to the Bering Sea. When we arrived there we had some seventy-five to eighty seals, the greater part of which were females, some of which had pups in them. *Jas. Kennedy, p. 449.*

Most of the seals taken by me were females with pup; have taken a few male seal from one to four years old. A very few yearlings have been killed by me, mostly females. *Mike Kethusduck, p. 262.*

Those taken in the Bering Sea were nearly all mother seals in milk, that had left their young and were in search of food. *Jas. Kiernan, p. 450.*

The majority of seals taken by me were females with pup. Have taken some yearling seals, but never examined them as to sex. Have killed one or two old bulls in my life. The males I have killed have been one and two years old, I think. *Robert Kooko, p. 296.*

Most all seal killed by me have been cows with pups. * * *
 Have not killed a bull seal for three years. I
John Kowineet, p. 261. have taken a few yearlings, mostly females.

All the seals which I have seen killed were fe
 males, and the majority of these were pregnant
Olaf Kram, p. 236. cows.

Most all seals that I have taken were cows with
 pup. A few male seal have been taken by me
George Lacheek, p. 264. from one to four years old.

And that a good many have pups in them, and that when the boats
 come aboard loaded with seal and they get through
James Laftin, p. 451. the skinning of them they would have a big pile
 of pups on deck.

I did not pay any particular attention to the sex of the seals we
 caught on the coast or in the sea any further than
Andrew Laing, p. 335. we got a number of the yearlings and 2-year-olds
 on the coast, and that I have seen young live pups
 ent out of their dead mothers and they would walk around on deek
 and bleat for three or four days, and then die of starvation.

We had a good catch, having taken 1,400 skins, more than 1,000 of
 which we secured on the coast. Of the latter,
Jas. E. Lennan, p. 370. more than 75 per cent were female pelts, and of
 these about 60 per cent were taken from pregnant
 cows.

I have very often cut a seal open and found a
 live young one inside.
Caleb Lindahl, p. 456.

Of the class of seals taken I can say, from personal observation on
 board sealing vessels, as well as from knowledge
Isaac Liebes, p. 453. gained in buying and handling the skins from
 seals killed in the Pacific, that in the spring 95
 per cent of them are cows heavy with pup; 4 per cent are pups less
 than 1 year old, born the previous summer, and 1 per cent males, most
 of the latter not exceeding two or three years old.

Of all the seals captured by me, about one-half of them, I think,
 were cows with pups in them, and it is very sel-
Jas. Lighthouse, p. 389. dom that I have ever caught a full-grown cow
 that was barren or did not have a pup in her;
 nor have I, in my long experience, caught a cow that was in milk, or
 that had recently given birth to her young. I seldom ever kill an old
 bull, for there are but very few of them that mingle with the herd
 along the coast.

We sealed from there [Sannak] to the Akatan Pass and caught 75
 seals, mostly females with pup. Some of the young
Caleb Lindahl, p. 456. they had inside were quite grown.

In the year 1885, six hundred (600) fur-seals were caught during the month of March off the Farallon Islands (California). In subsequent years we have had to go farther north each year in order to secure a good spring catch. My experience has been that fully 90 per cent of all seals taken were females, and of these two thirds ($\frac{2}{3}$) were mothers in milk. *E. W. Littlejohn, p. 457.*

I know that a large proportion of the seals taken were mothers in pup, or mothers giving milk, but I paid no particular attention to the percentage. *Wm. H. Long, p. 457.*

On my last trip this year, when hunting seals off the cape, I caught 10 seals, 5 of which had pups in them; the rest of them were from 1 to 2 years old, part male and part female. I think that fully one-half of the seals caught along the coast are full-grown females with pups in them. We sometimes catch a few medium-sized males, the rest being younger ones, both male and female. *Thos. Love, p. 371.*

Q. What percentage of the cows you have taken were with pup?—A. About 70 per cent, I should say. *Chas. Lutjens, p. 458.*

We went first south as far as Cape Blanco, sealing around there for about two months, when we started north to the Bering Sea. We were sealing all the way up and succeeded in capturing 138 seals before entering the Bering Sea. The majority of those were cows, the largest portion of which had pups in them. I know that from the fact of seeing them taken out and thrown overboard. *Thos. Lyons, p. 460.*

Most of the seals taken were females with pup. A few male seal were killed, ages ranging from 1 to 5 years. One old bull was taken. *Geo. McAlpine, p. 266.*

Most of the seals taken by me have been females with pup. The female seals are easier killed than the male, and we aim to get them. A few yearlings have been killed by me, mostly females. *J. D. McDonald, p. 266.*

Several of the females that we caught in the ocean were in pup, but the pup taken out of the belly was of no use for anything, and we would throw it overboard. *Wm. McIsaac, p. 461.*

About all the seal taken are females with young. Very few young male seal are seen on the coast. A few yearlings are caught, mostly females. *Jas. McKeen, p. 267.*

We had 300 or 400 seals altogether before entering the Bering Sea; they were most all females, which had young pups in them. *Wm. McLaughlin, p. 462.*

Q. What percentage of the females taken are with pup?—A. That depends on the season you are killing them in. When they are getting heavy in pup in the latter part of the season, the 1st of June, when you *Alexander McLean, p. 437.*

take a seal then you take two for one. You take the pup with them. That is, when it is a female. This is before we go into the sea. I have been into the sea for several years. For the last two years I have not gone in there—that is, while this restriction act has been put on. I have not interfered with the business.

Q. Your experience is that all of the adult females that you shoot during the forepart of the season up to July are with pup?—A. You may take it all the way from April, May, and June; from April all the female seals that you kill are with pup.

Q. Up until about the 1st of July?—A. Yes, sir.

Q. Until they go into the Bering Sea?—A. Yes, sir.

Q. What percentage of the cows taken are with pup?—A. The females are mostly all with pup—that is, up until the 1st of July.

We came down each year to the coast of Oregon, then went along up the coast to the Bering Sea. I do not recollect the exact number of seals we caught in 1888, 1889, and 1890, but last year we caught about 150 along the coast. I did not pay much attention to the sex of the seals, but I seen lots of little pups taken out of them.

We sailed up the coast and caught a few seals, until we got to the Bering Sea. We caught 1,100 seals, nearly all of which were caught in the Bering Sea. We caught them around St. George Island. I think out of the 1,100 we caught there were 600 females. Out of that 600 there were over 400 that had pups inside of them, and we threw them all overboard.

Most of the seals taken by me have been females with pup. I have never taken a big bull in my life. Have killed small bulls and some yearlings.

About half of the seals killed by me, I think, were cows with pup. Have never killed an old bull, but have killed a few yearlings in my life. Never examined the latter as to sex.

The biggest part of my year's catch off the coast were females with pups in them.

We sailed from Victoria on the 8th of April, and sealed along the coast up to Akutan Pass. We caught about 300 seals in that vicinity. Mostly all were females and a great many of them had pups in them. We cut the seals open and saw the young inside.

In 1890 I went sealing in the schooner *Argonaut*. She sailed from Victoria about the 8th of April, and sealed along the coast up to the pass in Bering Sea. We caught about 350 seals that year.

Most of the seals we caught in the North Pacific were females. A good many of them also had pups inside.

I noticed in the seals that we caught along the coast that a great many of them were females and had pups. I think most of them were females. I know that *William Mason, p. 466.* in my boat the catch was most all females and they had pups in them. They were usually shot when sleeping on the water.

We caught over 1,000 seals off the coast, almost all females, and a great number of them had young pups in them. * * *

Entered Bering Sea in July and was chased out *Thorwal Mathasan, p. 339.* by the cutters. Did not catch any seals in the American waters in the Bering Sea, but went over across on the Russian side and sealed there. The whole catch for that year was about 1,500 seals. Those that we killed on the Russian side was about in the same proportion as to females as those killed on this side.

A large majority of the seals killed in the North Pacific are cows with pup, and in Bering Sea, cows with milk. Few yearlings are killed every year by me. Of *G. E. Miner, p. 466.* the male seals killed a majority are 4-year-olds. I have killed but a few old bulls.

Q. What percentage of the cows you have taken were with pup?—A. About 75 per cent were with pup. *Frank Moreau, p. 468.*

Most all the seals killed by me have been females with pup. *Amos Mill, p. 285.*

We began sealing off Cape Flattery; sailed and sealed to the northward, and captured about 800 seals along the coast. There were not over ten males in the *Jno. Morris, p. 340.* whole lot. The females had pups in them and we cut them out of their mothers and threw them overboard into the ocean.

* * * * *
and captured about 400 seals while I was on her. They were all females with pup, excepting the yearlings, which were about one-half male and one-half female. * * * And captured about 750 skins along the coast. All the seals captured were pregnant females except the yearlings. * * * We began sealing off Cape Flattery and caught about 20 seals, all of which were pregnant females.

Most of the seals taken by me have been cows with pup. *Matthew Morris, p. 286.*

About half of all seals caught along the coast are cows with pups in them; a few medium-sized males are also taken, and the rest are young seals of both sexes. We *Moses, p. 310.* scarcely ever see an old bull seal, nor can we tell the sex of the seals in the water. I have never caught any full-grown cows along the coast that did not have pups in them.

- About half the seals taken by me are cows with pup. I have taken a few old bulls in my life, but not many. Have taken quite a number of yearlings. The male seals taken are between two and three years.
- Nash-tou, p. 298.*
- I think about half the seals killed by me are females with pup. I think there are a few more males killed in April than females, but in May there are more females killed.
- Smith Natch, p. 298.*
- About one-half of the seal I have taken were females with pup. Have taken a very few yearlings. Once in a while I take an old bull, but not often. The male seals that I have killed are two and three years old, I think.
- Dan Nathlan, p. 286.*
- Think about half of the seals taken by me have been cows with pup; the rest are yearlings and young males two and three years old. Have never seen an old bull in my life.
- Jos. Neishkaitk, p. 289.*
- Almost every female that has arrived at the age of maturity is pregnant. We follow them on from there into the Bering Sea, and almost all of the females taken are pregnant.
- Niles Nelson, p. 470.*
- I think about half the seals taken by me are females with pup. Have never taken but a few old bulls in my life. Have taken a good many yearlings, but never examined them as to sex.
- Ntkla-ah, p. 288.*
- We sailed south as far as Blanco, sealing around there for two or three months, when we headed north into the Bering Sea, having caught 250 or 300 seals before entering the sea, of which 60 per cent of them were females, mostly all of them having pups in them.
- John O'Brien, p. 470.*
- In the beginning of the season we killed mostly yearling seals, but as the season advanced we got almost all mothers in young in the vicinity of Cape Flattery or from the Columbia River to Vancouver.
- Nelson T. Oliver, p. 372.*
- The catch along the coast for the last six or seven years, since the rifle and shotgun have come into use, is principally females and the grown ones have pups in them. The catch of young seals is much less in proportion to the number caught than they were when Indians used to take them by spearing.
- Wm. Parker, p. 344.*
- We began sealing off Cape Flattery and sealed right up towards the Bering Sea, capturing 16 seals along the coast, all of which were females with pup. We captured 250 female seals with pup on the coast and then returned to Victoria, after which we sailed again in a short time on the same vessel with the same crew for the North Pacific Ocean and Bering Sea, capturing about 250 female seals while en route to the Bering Sea, also a few male yearlings.
- Chas. Peterson, p. 345.*

My experience in four years sealing is that nearly all the seals taken along the coast are pregnant females, and it is seldom that one of them is caught that has not a young pup in her. *Edwin P. Porter, p. 347.*

I have been out sealing this year and caught 16 seals; 5 of them were full-grown cows that had pups in them. The rest were young seals about 2 years old, both male and female, excepting one, and that was a gray pup. *Wilson Parker, p. 392.*

In the trip just made off this coast, I have taken eighty-one seals, of which three were bulls, three were bachelors, two were yearlings, about fifty were females pregnant, rest females barren. This is a fair average. *W. Roberts, p. 241.*

Most of the seals taken by me have been cows with pups. *Rondtus, p. 242.*

The majority of seals taken by me have been females with pup. Once in a great while I catch an old bull. A few yearlings have been taken and the majority of males are two and three year olds. *Abel Ryan, p. 299.*

Of the females taken in the Pacific Ocean, and early in the season in Bering Sea, nearly all are heavy with young, and the death of the female necessarily causes the death of the unborn pup seal; in fact, I have seen on nearly every vessel seized the pelts of unborn pups, which had been taken from their mothers. *L. G. Shepard, p. 189.*

While cruising along the coast our principal catch was female seals with pup, the balance being principally yearlings, about half male and female. *Wm. Short, p. 348.*

The majority taken are females with pup. Once in a while an old bull is taken, but very seldom. A few small yearlings are taken, but not many. *Jack Shucky, p. 289.*

We had 315 skins when we arrived here. Mostly all of them were females heavy with pup asleep on the water, and we killed them with shotguns. *Peter Simes, p. 476.*

Most of the seal taken by me were cows with pup. *Aaron Simson, p. 290.*

The last three years about half the seals I have killed were females with pup. A few male seals and yearlings have been killed by me. Have killed but four large bulls in the last four years. *Martin Singay, p. 268.*

From personal observation, as well as from the most reliable information, it is quite certain that there has been taken by the Indians of Vancouver Islands and Washington Territory during the last spring about 5,000 fur-seals, and almost inevitably each animal was with young, so

that in taking the number of adults above mentioned there were actually destroyed near 10,000 seals.

Jack Sitka, p. 268. Most of the seals taken are cows with young.

* * * * *

A few male seals are taken, their ages being from one to four years. A few yearlings are taken. A very few old bulls have ever been taken by me; the last three or four years have taken but three old bulls.

Most of the seals taken by me are females with pup. Never killed but one old bull in my life. Have killed but a few yearlings and never looked to see if they were male or female. The young males killed by me were between one and three years old.

Thomas Skowl, p. 300.

I think three females with pup out of every ten killed. I kill lots of yearling seals, but never examined them as to sex. Never shoot any old bulls, although I have seen a good many.

Geo. Skultka, p. 290.

We sailed from here on the *Flying Mist* on the 17th day of April, 1871, and caught altogether on that voyage about 875 seals, of which a large majority were either females with pups or with their breasts full of milk. I saw it flowing on the deck when we were skinning them. * * *

Went to the Okhotsk Sea and sealed there about two months. We got there some 500 seals, of which more than one-half were females, and the most of them had pups in them.

I am informed by our London sales agent, and believe, that nearly or quite nine-tenths of the Victoria catch is comprised of females.

Leon Sloss, p. 92.

A very large majority of the seal taken in the North Pacific Ocean are cows with pup.

Fred Smith, p. 349.

Most of the seals taken are females with young. Very few males are taken on the coast. I have taken 600 seals in one season and only 3 male seals were among them. A few yearlings are taken, mostly females.

Wm. H. Smith, p. 478.

We left San Francisco in February, and fished all the way up to Kadiak Island. We caught about 475 seals and about 40 otters. To the best of my judgment the greatest portion of these were cows heavy with young. We could see the milk running out of their teats when they were skinned. I saw pups inside of the seals that we cut, and we saved some of them and fed them.

E. W. Soron, p. 479.

We left here with the *City of San Diego* in February of 1888 and arrived in the Bering Sea in June, 1888. As soon as we got into the ocean we commenced shooting seals and continued shooting all the way up to the Aleutian Islands. The seals became more plentiful as we were going north. We caught about 650 seals during that voyage. We

Cyrus Stephens, p. 479.

killed a portion of them in the Bering Sea. We killed one large bull that I recollect, and the rest were nearly all females with pup or mothers giving milk.

Most of the seals taken are females with pup. Out of 111 seals last year I killed but 3 bulls. A very few yearlings have been taken by me. A few male seal
Joshua Stickland, p. 350.
 have been taken by me from 2 to 4 years old.

Q. What percentage of the cows you have taken were with pup?—A. Well, I should judge about two-thirds, anyhow. *Gustave Sundrall, p. 480.*

We commenced sealing as soon as we got outside of the cape, and captured about 270 seals along up the coast. Most of the seals caught were pregnant females, and when we would skin them the milk would run out of them on the deck. We began sealing off the Columbia River, and then sealed northward up the coast to Bering Sea, and captured about 320 seals in the North Pacific Ocean, most all females, and nearly all had young pups in them. *John A. Swain, p. 350.*

Most of the seal taken by me were cows with pup. * * * *M. Thikahdaynahkee, p. 269.*

A few male seal have been taken, from 1 to 4 years old. But very few old bulls have ever been taken by me. Have killed a few yearlings every year.

The catch that season along the coast was 90 per cent females, and the greater proportion of them were females in pup. * * * In 1891 I went out in the schooner *C. H. White*. We left here about the 5th of February, and sealed along the coast and did not enter the Bering Sea that season. We caught about 438 seals, and a large proportion of them were females with young ones in them. *Adolph W. Thompson, p. 486.*

Most of the seals taken on this coast are cows with young. * * * Quite a large number of yearlings are taken, most of which are females. *Charlie Tlaksatan, p. 270.*

The seals taken by me have been females mostly with pup. Have never killed a bull in my life. A few yearlings are taken, all of which are females. *Peter Trearsheit, p. 271.*

Among the Indian crews of the Vancouver Island sealing vessels, I have seen the skins of unborn pup seal; being of no commercial value, the crews were allowed to keep them. These unborn pups have been taken from female seals killed while coming up the west coast of North America. *Francis Tuttle, p. 487.*

About half the seals caught along the coast are cows that have white whiskers and have pups in them. A good many young males and females, from 1 to 2 years old are captured. They all have black whiskers. I have never killed any old bulls along the coast, but have killed a very few large cows late in the season that were barren. *John Tysum, p. 394.*

Most of the seal taken by me have been females with pup. A few male seal have been taken by me, ages ranging from 1 to 4 years old, I should think. Some yearlings have been taken, a majority of which were females also. Very few old bulls have been killed by me.

Most of the seals taken have been cows with pup. I have taken but a very few old bulls. I have killed plenty of young males, and have taken quite a number of yearlings, but never examined them as to sex.

Rudolph Walton, p. 272. The majority of seal taken are cows. A few yearlings are killed, mostly females.

Most all seals taken are females with young.
Charlie Wank, p. 273. * * * *

What few male seals are taken are 1, 2, 3, and 4 years old. Quite a number of yearlings are taken, mostly females.

In purchasing fur-seals from hunters I have noticed that not less than 75 per cent of the catch taken previous to May 25 are female seals; and from the development of the teat on the skin were evidently females with pup. After that the catch is mostly young seals; and I paid most attention to the sex.

Most of the seals captured along the coast are cows with pups in them. I have never captured any cows in milk or that had given birth to their young that year on coast, and I do not recollect of ever having caught an old bull.

Out of 60 seal taken so far this season 46 are females with pup and 14 were males. Only 1 yearling seal has been taken this season. Only 1 old bull was taken this season among the males. I should think the male seal taken this year were between 2 and 3 years old.

While out hunting this year we caught sixteen seals; one-half of them were cows with pup, the remainder were yearlings and two years old, of both sexes.

In my captures off the coast between here and Sitka 90 per cent of my catch were females, but off the coast of Unamaek Pass there was a somewhat smaller percentage of females, and nearly all the females were cows heavy with pup, and, in some instances, the period of gestation was so near at hand that I have frequently taken the live pup from the mother's womb.

I think about one-half the seal killed by me have been females with pup and the balance were divided up between yearlings and one and two year old males. Never examined the yearlings as to sex. Have never killed an old bull in my life.

Billy Williams, p. 300.

Think that most of the seals I have taken were females with pup. Have also taken some two and three year old males and some yearlings. Never killed but one old bull in my life. *Fred. Wilson, p. 301.*

Most all the seals caught by me along the coast were cows that had pups in them. I never killed a barren cow or one that was in milk. *Wispool, p. 397.*

Almost all seals taken are females with pup. *Michael Wooskoot, p. 275.*

Quite a large number of yearlings are taken, mostly females. During my life I have taken over 100 bull seals.

About half the seals I have killed were females with pup, and the balance were yearling seals and two and three year old males. Never killed an old bull in my life, nor have I ever seen one. *Billy Yellachy, p. 302.*

Some years ago there were more male seals taken than are taken now, but now about one-half are females with pup. The rest are yearling seals and one and two year old males. I have never examined the yearlings to ascertain their sex. Have not killed an old bull seal for a number of years, but used to kill them. *Hastings Yethnow, p. 302.*

Quite a number of yearlings were taken. About 50 per cent of the seals taken by me have been cows with pup. Never killed but one old bull in my life and that was near Kodiak Island. Took quite a number of young males, I should think two and three year olds. *Alf. Yokansen, p. 369.*

Most of the seals I have killed were females with pup. Once in a while an old bull is taken. *Paul Young, p. 292.*

Think the seals I have killed were about half males and half females with pup. The males mostly are yearlings and two and three year olds. I have seen old bulls in the water, but never killed one. *Walter Young, p. 303.*

I have been out on the Pacific Ocean this year seal hunting, and caught three seals; they were large cow seals, and had pups in them. One and two year old seals are about equally male and female. *Hish Yulla, p. 397.*

Almost one-half the seals I catch are cow seals and have little pups in them. *Hish Yulla, p. 398.*

About one-third of all the cows I caught along the coast were cows with pups in them; never caught any old bulls, and used to catch more gray pups than I do now. Most all the rest of the seals I caught have been 1 and 2 years old, and are about equally male and female. *Thos. Zolnoks, p. 398.*

REASON PREGNANT FEMALES ARE TAKEN.

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Martin Benson, p. 405. I think cow seal are tamer than young male seal.

A cow seal that's heavy with pup is sluggish, and sleeps more soundly than the males, and for that reason they are more readily approached.
Henry Brown, p. 318.

They are very tame after giving birth to their young and are easily approached by the hunters. When the females leave the islands to feed they go very fast to the fishing banks, and after they get their food they will go to sleep on the waters. That is the hunter's great chance. I think we secured more in proportion to the number killed than we did in the North Pacific.
Jas. L. Carthcut, p. 409.

They sleep more and are less active and more easily captured.
Simeon Chin-koo-tin, p. 256.

I think the female seal is less active and more easily approached.
Peter Church, p. 257.

I have noticed that the females, when at sea, are less wild and distrustful than the bachelor seals, and dive less quickly in the presence of the hunter. After feeding plentifully, or when resting after heavy weather, they appear to fall asleep upon the surface of the water. It is then they become an easy target for the hunters.
Jas. H. Douglass, p. 420.

Pregnant female seals, being heavy and stupid, and sluggish of movement, are more easily approached, and in consequence a greater proportionate number of them are secured.
A. J. Guild, p. 231.

I think the females sleep more on the water and are less active and more easily taken than the male.
E. Hofstad, p. 260.

When the females are with pup they sleep more, are less active in the water, and more easily approached than the male seal.
P. Kahikday, p. 261.

Think the female is more gentle and more easily taken.
Mike Kethusduck, p. 262.

Think cows are much more plentiful on the coast; sleep more and are more easily captured than the male seal.
Jno. Kowineet, p. 264.

Think cows are less active and require more sleep than the young male seal.
Geo. Lacheek, p. 264.

I am informed and believe that the reason of there being such a large proportion of females among the coast skins is because the male, which is powerful and strong, usually swims more rapidly and at a longer distance from the coast, and are so scattered and active and hard to catch that it does not pay to hunt them. The female heavy with young easily tires, and sleeps on the water, and is easily shot while in that condition. *Geo. Liebes, p. 511.*

I have known of several expeditions that have been fitted out for the purpose of following and capturing the seals after they leave the Pribilof Islands and are making their southern course. All these expeditions have proved utter failures, which is accounted for by the fact that the female seals at that period of the year are not heavy with young as they are in the spring, nor as fat as at a later period, and the hunters can not easily get within gunshot distance of them. They are much less likely to be found asleep at this season, and traveling seals are difficult to shoot and still more difficult to take in before they sink. The hunters have an idea that the sleeping seals are buoyed up by an inflated internal air bladder. Whether this is so or not it is certain that a "sleeper" is more likely to be secured after it is shot than a "traveler." *Isaac Liebes, p. 454.*

The male seals of merchantable size do not intermingle, I believe, to any extent with the cows caught off the coast of North America. They make their northern passage separate from the others, and further off shore. As they are more constantly on the alert than the females, the sealers have met with little success in hunting them. It is only the cow, heavy with pup, which, in consequence of her condition, is less active and alert, that falls an easy prey to the hunters.

Mother seals heavy with young are much easier taken, for they are usually asleep on the water. *William H. Long, p. 458.*

Q. Why is it, in your opinion, that more female than male seals are killed by the poachers?—A. Because, first, in the passage of the seals to the islands in the early season the females travel in groups and the males scatter; secondly, after arriving at the islands the males remain on or about the hauling grounds, while the females, having their pups to nurse, go out into the sea to obtain food. *Anton Melovedoff, p. 139.*

Q. How do you tell the skin of a female from that of a male?—A. By the nipples and general appearance.

As I understand the fact to be, most of the seals killed in the open sea are females. My reasons for this conclusion are (1) that, from my knowledge of the seal, I know that the female when heavy with young, as they are during the early part of the season when on their way to the rookeries where they are delivered during the months of June and July, are much heavier in the water and much less able to escape, because they are capable of remaining under water to escape for a very much less period of time than when they are not heavy with young, or than the male seal would be. *T. F. Morgan, p. 64.*

W. Roberts, p. 241. It is harder to take an old seal than a young one, the older ones being more on the alert and are not less active when pregnant.

Jack Sitka, p. 268. I think they are taken because they are more tame and less active and more easily approached.

Of the seals killed, from 60 to 70 per cent are females, which, during their northerly migration, are heavy with young, slow of movement, and require an extra amount of rest and sleep, thus largely increasing their liability to successful attack.

Emil Teichmann, p. 581. I have been told that it is easier to catch the female seal at sea than it is to catch the male seal, but I have no personal knowledge of that point. I suppose, however, that there must be some foundation for the statement by reason of the fact that so small a proportion of male adult seals are included in what is called the Northwest catch.

Adolph W. Thompson, p. 486. The female seal has more curiosity than the male seal. We catch more seals after two or three days of rough weather, because they are tired, and when it is calm the next day they are tired and lie asleep on the water.

M. Thlkahdaynahkee, p. 269. The cows are less active, sleep more, and are more easily captured.

Charlie Tlaksatan, p. 270. Cow seals sleep sounder on the water, and are less active and are easily captured.

James Unatajim, p. 271. I think the female is more gentle, sleeps more, and is more easily captured.

Rudolph Walton, p. 272. Cows are more easily captured because they have pups.

Charlie Wank, p. 273. They are less active, sleep more, and are easier captured.

P. S. Weittenkiller, p. 274. It is my opinion that female seal are more easily captured and appear to be more tame than the male seal, and I think sleep more.

Ninety-five per cent at least of all the female seals killed are either in pup or have left their newly-born pup on the islands, while they have gone out into the sea in search of food.

Theo. T. Williams, p. 493. The result is the same in either case. If the mother is killed the pup on shore will linger for a few days; some say as long as two or three weeks, but will inevitably die before winter. All of the schooners prefer to hunt around the banks where the female seals are feeding to attempting to intercept the male seals on their way to and from the hauling grounds.

Aside from the greater difficulty of killing and securing the skin of

a traveling seal, and the larger proportion of loss to the schooner, during the greater part of the sealing season, and more particularly in the Bering Sea, there are few males to be found in the water.

No other evidence of this is needed than the observation of the gentlemen who spend the season on the Pribilof Islands and who all agree in reporting that the male seals remain there, while the females, as soon as they are delivered of their young, go forth in search of food. The male seal seldom sleeps in the water during the sealing season. When the northward migration begins, in March, the male seals pursue their way with all diligence to the rookeries, and arrive there about thirty days ahead of the coming of the female seals. It must be plain from this that the opportunities for slaying male seals that are traveling rapidly through the water must be far less than for killing female seals, who, making their way leisurely, feeding as they go, and resting frequently because they are heavy with pup, offer a far more extensive target to the rifle of the hunter.

The Indians with whom I conversed in British Columbia, and who had had a varied and extensive experience of sealing, not only as seal hunters for schooners, but when out in search of food, all declared, that the male seal seldom ate and never slept while on his way to the rookeries. They declared that as with the salmon when on its way to the spawning grounds, they had never found food in the stomach of the few male seals they had managed to capture.

So far as I was able to learn, the terms "sleeper" and "traveler" as applied to seals, had their origin among the Indians. They declared, and in that they are borne out by all of the white hunters, that the seal, when it is desirous of resting in the water, inflates a bladder in its body, which keeps it afloat. Whether this be so or not, makes no difference, but the fact is, that almost the only way the Indians have of killing seals is by paddling noiselessly up to the sleeping animal as it floats on the water, and spearing it.

Many of the schooners employ Indian hunters, who work much cheaper than the whites, who only use the spear, and never attempt to kill a traveling seal.

The reports of their catches show that all of their captures are females. It could not well be otherwise, for the male seals, in making their way to the rookeries, take a more northerly course, and go with all speed, while the females move towards the mouth of the Columbia, and other large fishing banks, following the runs of fish, or idly waiting until nature tells them that the period of gestation is about ended, and they then make their way to the rookeries to be delivered of their pups.

The large proportion of females killed in the North Pacific is due to the fact, as I explained before, that males pursue their way to the hauling grounds with dispatch, while the females are more leisurely in their movements and take frequent rests. *T. T. Williams, p. 495.*

They are less active, sleep more, and are more easily taken. *Michael Wooskoot, p. 274.*

DESTRUCTION OF NURSING FEMALES.

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On June 10, 1886, I left the Columbia River, proceeding to Unalaska,

C. A. Abbey, p. 185.

and thence on the 27th day of June into the Bering Sea, my destination being the Pribilof, or Seal Islands. Soon after leaving Unalaska we began to see seals in the water about the steamer. Within seven hours after leaving Unalaska I sighted the schooner *Sierra*, of and from San Francisco, with her boats out sealing, in latitude $54^{\circ} 20'$ north, longitude $166^{\circ} 35'$ west. Before I could overhaul her her boats were called in and all evidences of sealing were out of sight. There were seal-skins in her hold, but as there was no evidence that any had been taken in Bering Sea, I disarmed her, she being without a permit for use of arms and ammunition, and let her go. The next morning sighted the schooner *City of San Diego*, of San Francisco, in latitude $55^{\circ} 52'$ north, longitude $168^{\circ} 25'$ west. As she also had no permit for arms and ammunition I disarmed her.

I then called at the Pribilof Islands and cruised about them for some days without seeing any vessels of any kind. On the 3d day of July cruised northward, returning to St. Paul on the 10th; it was very difficult to find the island because of the dense fog. On the 13th went south and west. Reached Atka Island on the 15th; thence went easterly along the Aleutian Islands. On the 17th seized the schooner *San Diego*, of and from San Francisco, in latitude $54^{\circ} 4'$ north and longitude $166^{\circ} 46'$ west. She had 577 seal-skins on board, and the captain confessed to having taken seals in Bering Sea. I took her into Unalaska that night.

On the 26th of July I was again off St. Paul Island, and the agent of the Alaska Commercial Company came on board and informed me the sealing season on the island was ended, and the day before the agent at St. George Island had informed me of the same fact in relation to that island. On August 1st I seized a boat containing three men and eight dead seals. Proceeding southeasterly, seized another boat with men and several dead seals on board. Seized the schooner *Thornton*, of and from Victoria, British Columbia, in latitude $55^{\circ} 45'$ north and longitude $168^{\circ} 25'$ west. The two boats seized belonged to the *Thornton*. The same evening seized the schooner *Carolena*, of Victoria, British Columbia, in about the same locality. Half an hour later seized four boats belonging to the *Carolena* with dead seals on board. That night spoke schooner *Twilight*, sealing, but the captain stated they had taken no seals in Bering Sea, and on account of the schooners I had in tow I was unable to overhaul her.

The next morning at 4:10 sighted a schooner, evidently a sealer, but was unable to pursue her, owing to the fact of having the *Thornton* and *Carolena* in tow. At 4:40 a. m. spoke the schooner *Onward*, of Victoria, British Columbia, in latitude $55^{\circ} 10'$ north and longitude $167^{\circ} 40'$ west. The master acknowledged he had been sealing in Bering Sea. Boarding her and finding seal-skins and unskinned dead seals on board, I seized her and took her also in tow. At 7:20 a. m. sighted another schooner, but she fled, and outsailed us. At 11 a. m. sighted a schooner under shortened sail. She at once changed her course and made all sail southeast and escaped. Reached Unalaska that night. The *Thornton* had on board four rifles and six shotguns; the *Onward*, one rifle and thirteen shotguns; the *Carolena*, four rifles, one musket, and five shotguns. Altogether, the vessels I seized had over 2,000 seal-skins. My orders made no distinction as to seizing English or American vessels, and each vessel seized received the same treatment without relation to the nationality of its crew or owner.

We entered the Bering Sea through the Muekawa Pass about the 1st of July, and commenced hunting seals wherever we could find them, among which were a great many cows giving milk, which we killed from 30 to 150 miles from the islands. *Chas. Adair, p. 400.*

I have no *exact* information as to the proportion of male and female seals killed by pelagic hunters, but it is my firm conviction, from my knowledge of the habits of the males in not leaving the islands during the breeding season and the well-known fact that mother seals go great distances in search of food while nursing their young, that the females are slaughtered in great numbers during their journeys to and from the islands by pelagic hunters. *Geo. R. Adams, p. 158.*

And when in the Bering Sea we take seals from 10 to 120 miles from the seal islands. *Wm. Bendt, p. 404.*

And the larger proportion of those killed in Bering Sea are also cows. Have killed cow seal, with milk in them, 65 miles from the Pribilof Islands. * * * A few male seal are taken, ages ranging from 1 to 5 years. Once in a while we catch an old bull in the Pacific Ocean. *Martin Benson, p. 405.*

We came out of the Bering Sea the latter part of August, and had caught about 1,700 seals between the Pribilof Islands and Unalaska; we caught them from 10 to 100 or more miles off St. George Island. *Niels Bonde, p. 315.*

The seals caught along the coast after the 1st of April are mostly pregnant females, and those caught in Bering Sea were females that had given birth to their young. I often noticed the milk flowing out of their breasts when being skinned, and have seen them killed more than 100 miles from the seal islands. I have seen live pups cut out of their mothers and live around on the decks for a week. *Niels Bonde, p. 316.*

I was in the Bering Sea in 1889 on the schooner *James G. Swan*, but did not use shotguns. Most all the seals we caught were cows giving milk. *Bowa-chup, p. 376.*

We entered the Bering Sea the middle of May and captured 300 while in there. Most of these were mother seals with their breasts full of milk. *Thos. Bradley, p. 406.*

We did not capture any gravid seals in the Bering Sea. Nearly all the seals taken in Bering Sea were cows in milk. We captured a few young seals in the sea of both sexes. *Henry Brown, p. 317.*

I hunted in Bering Sea in 1889 (that being the only year I ever went to that sea) and hunted seals with spears about 70 miles southwest off the islands, and our catch was nearly all cows that had given birth to their young and had milk in their teats. *Peter Brown, p. 377.*

We entered the sea along about the 1st of May and caught between 600 and 700 seals from 30 to 150 miles off the seal islands, and four out of five were females in milk. I saw the milk running on the deck when we skinned them.

Thos. Brown, No. 2, p. 407.

Have killed cows with milk about 60 miles off the Pribilof Islands. A few old bulls were killed by me last season.

Chas. Campbell, p. 256.

And that 80 per cent of seals shot in Bering Sea from July 1 to September 15 are females, most of which have given birth to their young and are mostly caught while feeding at various distances from land.

John C. Cantwell, p. 407.

At least 7 out of 8 seals caught in the Bering Sea were mothers in milk.

Chas. Challall, p. 411.

While in the sea I caught a great many cow seals that were giving milk. Most all the seals we caught in the sea were giving milk.

Circus Jim, p. 380.

In 1887, about the 1st of June, I went into the Bering Sea in my own schooner, the *Lottie*, and hunted about 60 miles off the islands and secured about 700 seals, most all of which were cows in milk. These cows had milk in their breasts, but had no pups in them. I returned to the Bering Sea in my own boat, the *Lottie*, in 1889, and also in 1891, and sealed all the way from 100 to 180 miles from the St. George and St. Paul islands. The catch of these two years were of about the same character as those caught in 1887, and were mostly females that had given birth to their young and were in milk.

Jas. Claplanhoo, p. 382.

We entered the sea through the Unimak Pass, and captured therein about 40 seals, most all of which had milk in their breasts.

Louis Culler, p. 321.

We left Victoria in January and went south to Cape Flattery and Cape Blanco, sealing around there about two months, when we went north, sealing all the way up to the Bering Sea. * * * We entered the sea to the best of my recollection about June, and caught about 900 seals in there, two-thirds of which were mother seals with their breasts full of milk. I saw the milk flowing on the deck when we skinned them.

John Dalton, p. 417.

The waters were full of them at that time. We caught them from 50 to 60 miles off the seal islands.

John Dalton, p. 418.

We only got three seals with pups in them in the Bering Sea. Most all of them were females that had given birth to their young on the islands, and the milk would run out of the teats on the deck when we would skin them. We caught female seals in milk more than 100 miles off the Pribilof Islands.

Alfred Dardean, p. 322.

Frank Davis, p. 383.

But the seals I caught in Bering Sea were most all cows in milk.

I have hunted seals in the Bering Sea for one season only. I went there in the schooner *James G. Swan* in 1889. Most of the seals that we captured there that season were cows giving milk. I do not know where their pups were. I never caught any gray pups in the sea. *Jeff Davis, p. 384.*

The proportion of female seals killed in the Bering Sea is equally large, but the destruction to seal life is much greater, owing to the fact that when a mother seal is killed her sucking pup left at the rookery also perishes. Impregnation having also taken place before she left the rookery in search of food, the fœtus of the next year's birth is likewise destroyed. *James H. Douglass p. 420.*

We left San Francisco and fished up the coast until we entered the Bering Sea, in July, and sealed about the sea until we were driven off by the revenue-cutter *Corwin*. From there we went to the Copper Islands. Our whole catch amounted to 900 skins, and we killed most of them with rifles. We only got about one out of eight that we shot at, and they were most all females giving milk or in pup. When we cut the hide off you could see the milk running from the breasts of the seals. The second year we got over 1,300 skins; some of them were cows with pups in them, and most all the rest were cows giving milk, and some of the latter we killed as far from the rookeries as Unimak Pass. *Peter Duffy, p. 421.*

Mostly all the females killed has unborn pups or were cows giving milk. We did not kill any on the islands. We never went in close enough. * * * *William Frazer, p. 427.*

The next trip was on the *C. G. White*. That trip we entered the Bering Sea on the Russian side, and hunted all the coast of Japan to the Bering Sea. I do not know if we were on the American side or not. We got about 600 seals on that trip. They were nearly all females. I noticed when we skinned them that they were females in milk, as the milk would run from their breasts on to the decks.

We entered the Bering Sea about April and we got 795 in there, the largest part of which were mother seals in milk. When we were skinning them the milk would run on the deck. *John Pyfe, p. 429.*

I know that fully 75 per cent of those we caught in the Bering Sea were cows in milk. *Thos. Gibson, p. 432.*

We entered the Bering Sea on the 13th July, through the Unimak Pass, and captured between 900 and 1,000 seals therein, most of which were females in milk. *Arthur Griffin, p. 325.*

We entered the sea on July 12, through Unimak Pass, and captured about 800 seals in those waters, about 90 per cent of which were females in milk.

My own observation and the information obtained from seal hunters convince me that fully 90 per cent of the seals found swimming in the Bering Sea during the breeding season are females in search of food, and their slaughter results in the destruction of her young by starvation. *M. A. Healy, p. 28.*

Nearly all the seals killed in the water before the middle of June are cows in pup, and after that, mothers giving milk.

Wm. Hermann, p. 446.

While in Bering Sea we cruised around the Pribilof Islands in all directions, often coming within view of them, but never landing or making any attempt to do so.

Norman Hodgson, p. 367.

The proportion of females taken to males was about 70 per cent, more than two-thirds of these being nursing cows, while the remainder were two-year-olds and yearlings. On first entering the sea an occasional pregnant cow would be taken, but this was uncommon. Of the males taken in the Bering Sea the numbers of yearlings and very young bachelors was about equal; no bulls were ever taken.

We arrived in the sea sometime in July. When we first entered Bering Sea, we went direct to St. Mathews Islands. As near as I know, seal were taken last year from 60 to 100 miles from the Pribilof Islands. Most all the seals taken in Bering Sea were females with milk. But one old bull was taken, and two young males, but no females with pup.

O. Holm, p. 368.

And that those that I secured in the Bering Sea were nearly all females that had given birth to their young and were in milk. Our vessel captured about 460 seals at a distance of about 100 miles from the Pribilof Islands, most all of which were cows in milk.

Alfred Irving, p. 386.

I have killed female seals with milk 200 miles from the Pribilof Islands. I think of the seals taken by me that three in five are females, and nearly all with pup.

Victor Jacobson, p. 328.

We captured about 800 seals at a distance from the rookeries on the Pribilof Islands of from 20 miles to 200 miles; about three-fourths of the catch in the sea was female seals in milk, the balance consisting of yearlings and male seals.

Jas. Jamieson, p. 329.

Nearly our whole catch in the Bering Sea, after the first of July each year, were females, and nearly all of them in milk, and had evidently given birth to their young but a short time before. The milk would run out on the deck as we skinned them.

Jas. Jamieson, p. 331.

We entered the sea and caught about 1,000 in there. We sealed all over on this side of the Bering Sea, sometimes being over 150 miles off the seal islands, and sometimes we were closer. I did not pay any attention to the proportion of females, but I know we skinned a great many that were giving milk, because the milk would run from their breasts onto the deck when they were being skinned. We killed mother seals in milk over 100 miles from the seal islands. We generally shoot them when they are asleep on the water. * * *

Jas. Kean, p. 448.

We caught between 300 and 400 seals on the coast, and 600 in the Bering Sea. We sealed on the American side of the Bering Sea around the Pribilof Islands, anywhere from 10 to 150 miles off. The capture of 1890 was about the same in proportion to sex as the year before.

We entered the Bering Sea about the latter part of July and captured 260 seals from 20 to 100 miles off the seal islands. A large proportion of them were females nursing their young, and their teats were large and full of milk. *Jas. Kennedy, p. 449.*

I have observed that those killed in the North Pacific were mostly females carrying their young, and were generally caught while asleep on the water. *Jas. Kiernan, p. 450.*

The same day after a chase of an hour, we were seized by the U. S. S. *Mohican*. The total catch of seals at the time of seizure was 48, and at least 20 were females, the majority of which were in milk. All the seals were taken from 120 to 180 miles from St. George Island. *Francis R. King-Hall, p. 333.*

When in Bering Sea we are usually from 50 to 150 miles from Pribilof Islands. *Andrew Laing, p. 335.*

I have killed females in milk in Unimak Pass, and even out in the Pacific Ocean, 200 miles from the land. *E. N. Lawson, p. 221.*

In Bering Sea, where we obtained about 400 skins, males and females in about equal numbers were taken. The females were mostly nursing cows, while the males were young ones, between the ages of 2 and 5 years. *Jas. E. Lennan, p. 370.*

Another fact in connection with open-sea sealing is that the great majority of seals killed are females, and that a great part of the females are pregnant, or in milk. The milking females are most all killed while visiting the feeding grounds, which are distant 40 or 60 miles, or even farther from the islands. The female necessarily feeds so she can supply nourishment for her young, while the males during the summer seldom leave the islands. This accounts for the large number of females killed in Bering Sea. *A. P. Loud, p. 39.*

When we skinned the females that we killed in Bering Sea we would find they were mothers in milk, as the milk was running out of their teats. * * * We would catch them all the way from 100 to 300 miles off the seal islands. *Wm. McIsaac, p. 461.*

We entered the sea about the middle of June and sealed around the Pribilof Islands, sealing from 5 to 10 miles and sometimes 40 miles off the islands. I do not remember the number of seals that we got in the Bering Sea, but they were mostly mother seals with their breasts full of milk. *Wm. McLaughlin, p. 462.*

Q. Did you ever kill any seals later in the season that were giving milk?—A. Yes, sir. *Alexander McLean, p. 437.*

The following is an extract from my notebook during the nine days' hunt in Bering Sea, from August 23 to 31, in the waters about 40 to 50 miles from the entrance to Unalaska harbor, and 40 to 50 miles off Akutan *Robert H. McManus, p. 337.*

Island, Aleutian chain, or from 150 to 200 miles from the Pribilof Islands.

Sunday, August 23, wind light; misty; rain. 7:30 a. m., sighted seals to west. Second boat lowered; killed one seal in sight of vessel. First boat and canoe lowered; out all day, returning to meals. Result of day's hunt: Second boat, one seal. Seals sporting round vessel; a great many shots fired by boats.

Monday, August 24, clear weather; calmer sea. Boats and canoe out all day from 7 a. m. (returning to dinner). Result: First boat, one seal; reported having lost two. Second boat, none. Indian canoe, one seal. Total, 2 mediums; a great deal of firing heard.

Tuesday, August 25, rain in morning. Boats and canoe out at half past 9 o'clock; out all day (returning to dinner). Result: First boat, two seals reported, wounded and lost five; seals said to be shy and wary, and not so numerous as formerly; attention called to cow seal being skinned (which I had taken for a young bull). The snow white milk running down blood-stained deck was a sickening sight. Indian canoe, one seal. Total, 3 seals; 2 mediums and 1 cow.

Wednesday, August 26, cloudy morning; seals floating round schooner. Boats and canoe out all day. Result: First boat, 1 seal; second boat, none; Indian canoe, 10 seals; total, 11 seals; 8 cows in milk, and 3 medium. Skipper in first boat blamed the powder. Second boat said it was too heavy and clumsy for the work. Skipper reported having wounded and lost 7, and the men in second boat 9 ditto, 16 in all. Skipper said seals not so numerous as formerly, more shy; also blamed the powder. Evidently a great deal of shooting and very few seals to correspond.

Thursday, August 27, seals to all appearances very scarce, species being exterminated, so to judge from the skipper's remarks. Weather fine and clear. Boats and canoe out; returned at noon, consequence of rough sea. Result: First boat, 1; second boat, none; Indian canoe, 2 seals; total, 3 seals. Again in favor of Indian spear. Powder blamed again. Tired of such excuses. So far have not found one word of truth in anything I've heard previously about open sea seal-hunting.

Friday, August 28, rain and heavy sea in morning, cleared in afternoon; boats and canoe out in afternoon; returned at 6 p. m. No skins, although a great deal of shooting going on. First boat reported having wounded and lost three seals; blamed powder. Poor powder. It takes, judging from the number of shots fired, about a hundred to secure one seal.

Saturday, August 29, ship's cook brought down from deck a large cow seal at 40 yards rise. Boats and canoe out all day; fine, clear, balmy weather; Ankatan Island in sight. Result: First boat, three seals; second boat, three seals; cook from deck, one; Indian canoe, ten; total catch, seventeen seals, greater proportion cows in milk; horrid sight, could not stay the ordeal out till all were flayed. A large number reported as wounded and lost. According to appearances, slaughter indiscriminate.

Sunday, August 30, fine clear morning; hazy toward Ankatan. At 6 o'clock a cry "Here's the cruiser" to the eastward. Boats and canoe off at 7 o'clock; at 8 o'clock I could see the deck of the steamer bearing down on us about 8 miles off. Boats recalled. The Indians returned about 9 o'clock, greatly excited; went out again when the steamer sheered off towards Unalaska Harbor. Result of hunt: First boat, two seals; second boat, one; Indian canoe, seven; total, ten seals, seven of

which were cows in milk. Several, as usual, reported wounded and lost by the boats. The great superiority of the Indian spear evident.

Monday, August 31, captured by the U. S. S. *Mohican* 3:30 p. m.; no hunting.

And those we caught in the Bering Sea were mostly all females with milk in their breasts. * * * *Patrick Maroney, p. 464.*

The next season, 1890, we got on the way up between 100 and 200 seals, and then we entered the Bering Sea about the 18th or 19th of July, and I caught 90 seals, mostly all females. * * *

When we were in Bering Sea we hunted from 40 to 200 miles off the seal islands.

We caught a few seals in the Bering Sea and then were ordered out and sent back to Victoria. Those that were caught in the Bering Sea were mostly females and had had pups and were in milk. * * * *Henry Mason, p. 465.*

About two-thirds of those caught in the Bering Sea were females that had big teats and were giving milk. We could tell that when we were skinning them, because the milk would run out on the decks. *Wm. Mason, p. 466.*

We sealed around Unalaska, but did not go toward the Pribilof Islands. We caught 1,900 seals, all of which were captured in the sea, close to Unalaska; most all of them were cows in milk; but when we first entered the sea we killed a few cows that had pups in them. * * * That year we sealed east of the island and caught about 800 seals. I do not know how far we were from the islands, for we could not see them. The seals we caught were mostly cows with milk. *Moses, p. 310.*

I believe the majority of seals captured by white hunters in Bering Sea are females in search of food. *Morris Moss, p. 342.*

I was sealing in the Bering Sea during July, August, and September, 1885 and 1886. I was cruising in the Bering Sea around about the Pribilof Islands, and from 100 to 300 miles off. The principal portion of the cruising was between the Aleutian Islands and the Pribilof Islands. One of the principal sealing grounds is off Bogoslof. *Niles Nelson, p. 469.*

We entered the Bering Sea the latter end of May, and caught about 700 seals in the Bering Sea, mostly all of them being females in milk. I saw the milk flowing on the deck when they were skinned. * * * I could not tell how far off we caught them from the seal islands, as I did not know the distances. At that time there were lots of seals in the water. *John O'Brien, p. 470.*

After entering the sea we got one female with a very large pup, which I took out alive and kept it for three or four days, when it died, as it would not eat anything. All the others had given birth to their young and their breasts were full of milk. *John Olsen, p. 471.*

We captured about 4,700 seals, most all of which were cow seals giving milk. The majority of the seals we caught in the Bering Sea were cows that had given birth to their young. We captured these at a distance of about 100 miles away from the Pribilof Islands.

Ostly, p. 391.

* * * * *

About four years ago I went to Behring Sea as a hunter in the sealing schooner *Challenger*, Williams, master. We caught about 2,000 seals, most of which were cows in milk.

The seals taken in Bering Sea are nearly all grown. We get but very few young seals. I think we catch in Bering Sea more males in proportion to females than we do on the coast. We catch a good many females in Bering Sea that have given birth to their young on the islands and were in milk. I have caught plenty of cow seals in milk a hundred miles or more from the islands, but seldom get any that have a pup in them in those waters.

Wm. Parker, p. 344.

We entered the Bering Sea about the 15th of August through the Unimak Pass and captured therein 1,404 seals, most of which were cows in milk. On that voyage we caught female seals in milk over 80 miles from the rookeries, where they had left their young. * * *

Chas. Peterson, p. 345.

I have seen the deck almost flooded with milk while we were skinning the seals. We entered the sea and secured about 10 seals, all of which were females in milk.

The seals we captured in Bering Sea were fully 80 per cent females that had given birth to their young. A fact that I often noticed was that their teats would be full of milk when I skinned them, and I have seen them killed from 20 to 100 miles from the seal islands.

Edwin P. Porter, p. 347.

Q. How do you know that the marauders kill females principally?—
A. I know that the females, after giving birth to their young on the rookeries, frequent the open sea in search of food, whereas the males frequent the hauling grounds or waters immediately around it. At various times I have seen skins which were seized by the cutters from the poachers, and they were substantially female skins.

J. C. Redpath, p. 140.

I have been in Bering Sea but a part of one season. Of the seals taken about one-third were males, one-third females with young, one-third barren and yearlings.

W. Roberts, p. 242.

I have taken nursing females when as much as 100 miles from Pribilof Islands.

I estimate that the seals killed by pelagic hunters are at least 90 per cent females; this estimate is based on the great number of motherless pups I have observed on the rookeries, and also on statements made to me by many engaged in pelagic sealing whom I met and conversed with at Unalaska.

T. F. Ryan, p. 175.

Pursuant to orders received from the Treasury Department, I sailed from San Francisco June 4, 1887, arriving at Unalaska on the 15th of that month. On the 18th I *L. G. Shepard*, p. 187. commenced cruising in Bering Sea. I hereby append to and make a part of this affidavit a table, marked A, giving the names of the vessels seized by me in Bering Sea while violating the law of the United States in relation to the taking of fur-bearing animals (all these vessels so seized were unmistakably engaged in sealing), together with the date of the seizure in each case, the nationality, rig, tonnage, hailing port, master, and managing owner of each vessel, the longitude and latitude in which each vessel was seized, the white men, Indians, and Chinamen on board at the time of seizure, the number of seal-skins and the weapons on each vessel. In the cases of the *Challenge*, *Anna Beck*, *W. P. Sayward*, *Dolphin*, *Lilly L.*, *Grace*, and *San José* the vessels were towed to Unalaska, and their sealskins and arms were taken from them, and they were sent to Sitka. The *Ellen*, *Albert*, *Adams*, *Annie*, *Alpha*, and the *Kate* and *Anna* were disarmed and the seal-skins taken on board the *Rush* at the time and place of seizure, and they too were sent to Sitka. All these vessels reported there, except the *Ellen* and *San José*, going to San Francisco, and the *Albert Adams*, to Victoria, British Columbia. I again sailed from San Francisco the 3d of July, 1888, and entered Bering Sea about the 16th of the same month. Owing to the large number of vessels seized in 1887, very few sealing vessels entered Bering Sea to take seals in 1888, and I made no seizures. I only saw two vessels in the sea during that season, one of which, the *Juanita*, of Victoria, British Columbia, was engaged in taking seal at the time we sighted her, which was August 5, in latitude $54^{\circ} 38''$ north, longitude $166^{\circ} 54''$ west. In 1889 I again sailed from San Francisco for Bering Sea on June 1, and arrived at Unalaska June 16. Began cruising in the sea eight days later. I hereby append to and make a part of this affidavit a table marked B, giving the names of the vessels seized by me in Bering Sea while violating the laws of the United States in relation to the taking of fur-bearing animals, together with the date of seizure, nationality, rig, tonnage, hailing port, master, managing owner, latitude and longitude in which seized, and the white men and Indians on board at the time of seizure, the number of seal-skins and weapons on each vessel seized. In nearly every case of those vessels named in Table B they had boats out engaged in sealing. All of them were ordered to go to Sitka, but none of them reported there, all going to their home ports. The *Black Diamond*, the *Minnie*, and the *Pathfinder* were each placed in charge of a special United States officer, who protested in vain against the non-compliance with the instructions given to proceed to Sitka. The *Minnie*, in spite of the officer on board, continued sailing in Bering Sea until August 17, and secured during that time 478 seal-skins.

I hereby append to and make part of this affidavit the number and names of vessels fitted out for sealing boarded and examined by me in Bering Sea or the waters of Alaska Territory during the sealing season of 1889, together with the date of such boarding, nationality of the vessel, rig, tonnage, hailing port, master, owner, latitude and longitude, white men and Indians on board, seal-skins and weapons found. The last three columns of said table are incomplete, from the fact that the officers boarding failed to get definite statements on these points. They were not seized, because evidence was wanting as to their having actually sealed in Bering Sea.

TABLE A.

Number.	Date seized.	Nationality.	Rdg.	Name and official number.	Tonnage.	Hailing port.	Master.	Managing owner.	Latitude (north).	Longitude (west).	White men.	Indians.	Chinamen.	Seal-skins.	Breaching ribs.	Other arms.
1	1887. June 30	American.	Schooner	Challenge, 12639.	36.61	Seattle, Wash.	H. B. Jones	Albert Douglass.	Akutan land.	Is-	14	1	---	151	4	5
2	July 2	British	Steam schooner.	Anna Beck, 64135	36.35	Victoria, B. C.	Louis Olsen	J. D. Warren, Victoria, B. C.	54° 58' 16" 28'	28'	7	12	---	336	---	---
3	July 9	do	Schooner	W. P. Sayward, 83440.	59.79	do	George R. Ferry	do	54 43 167 51	51	6	19	---	477	---	---
4	July 12	do	Steam schooner.	Dolphin, 83445	60.10	do	J. D. Warren	do	54 38 167 63	63	7	26	---	618	4	36
5	July 16	American.	Schooner	Lilly L, 140872	63.42	San Francisco	James W. Todd	C. D. Ladd, San Francisco.	55 46 170 38	38	22	---	---	197	9	61
6	July 17	British	Steam schooner.	Grace, 83442	76.87	Victoria, B. C.	William Pett	J. D. Warren, Victoria, B. C.	55 03 168 40	40	6	24	1	769	3	22
7	Aug. 6	American.	Schooner	Ellen, 135838	12.03	San Francisco	Thos. H. Wentworth.	Claus W. Liljequist	54 19 166 56	56	6	---	---	195	3	3
8	Aug. 6	British	do	Alfred Adams, 83443	68.75	Victoria, B. C.	W. H. Dyer	Jacob Gutmann, Victoria, B. C.	54 42 167 20	20	4	21	1	1,379	3	9
9	Aug. 6	American.	do	Annie, 106406	25.27	San Francisco	Henry Brown	James Ladd, San Francisco.	55 05 167 19	19	11	---	---	304	2	5
10	Aug. 8	do	do	Alpha, 105761	26.58	Astoria, Oregon	James Tatton	Jas. Tatton, Astoria, Oregon.	56 55 169 40	40	6	---	---	389	5	6
11	Aug. 8	do	Steam schooner.	Kate and Anna, 14373.	16.49	Portland, Oregon	Charles Lintjens	Chas. Lintjens, Portland, Oregon.	57 07 169 51	51	7	---	1	577	6	8
12	Aug. 18	do	Schooner.	San José, 116087	51.88	San Francisco	John S. Lee	James Garvin, Oakland, Cal.	54 14 167 28	28	16	---	---	891	7	6

TABLE B.

Number.	Date of seizure.	Nationality.	Rig.	Name and official number.	Tonnage.	Halling port.	Master.	Owner.	Latitude (north).	Longitude (west).	White men.	Indians.	Seal-skins.	Breech-loading rifles.	Other arms.	Indian spears.
1	1889. July 11	British	Schooner.	Black Diamond 61304*	81.57	Victoria, B. C.	Owen Thomas	Frank & Gutman...	56° 29'	170° 25'	5	20	76	1	.....	20
2	July 15	.....do .....	.....do	Minnie, 94806	49.66	.....do	Victor Jacobson	Victor-Jacobson...	55 11	105 55	5	16	418	.....	2	11
3	July 29	.....do .....	.....do	Pathfinder, 75908	69.88	.....do	William O'Leary	Bechtel	57 24	171 55	20	14	853	4	8	.....
4	July 30	United States .....	.....do	James G. Swan, 76803.	59.91	Port Townsend	Martin Bouton	Chestonqua Peterson	55 44	171 4	2	14	171	2	2	11
5	July 31	British .....	.....do	Juanita, 72675	40.21	Victoria, B. C.	C. E. Clarke	Hall & Gospel	55 42	170 40	4	14	619	.....	.....	14
6	Aug. 6	.....do .....	.....do	Lily, 83443*	68.75	.....do	John Reilly	Frank & Gutman...	55 29	168 15	5	25	333	.....	.....	23

* Partly owned by American citizens.

TABLE C.

Number.	Date boarded.	Nationality.	Rig.	Name.	Tonnage.	Hailing port.	Master.	Owner.	Latitude (north).	Longitude (west).	White men.	Indians.	Seal skins.	Rides.	Other arms.
1	1889.														
2	July 4	United States.	Schooner.	Molly Adams	123.43	Port Townsend	Jacobs	Jacobs.	Unalaska.		20				
3	July 4	do	do	Henry Dennis	96.37	Salem, Mass.	Lavender		Unalaska.		14				
4	July 4	do	do	Walter L. Rich.	79.75	San Francisco	Seward		Unalaska.		18				
5	July 4	do	do	Lily L.	63.42	do	Minor	C. D. Ladd	Unalaska.		22				
6	July 11	British	do	Triumph	98	Victoria, B. C.	McLean		56° 5' 170° 41'		25				
7	July 19	United States.	do	Allie I. Algar	79.42	Seattle, Wash.	Algar	J. Nixon.	Unalaska.		18				
8	July 19	do	do	O. S. Fowler	35.45	San Francisco	Kieman		Unalaska.		*2				
9	July 23	do	do	Gas. Hamilton Lewis		Seattle, Wash.	Raynor	J. Nixon.	55° 44'	167° 18'	13				
10	July 23	do	do	Venture	24.49	do	Nelson	do	54° 42'	167° 38'	8		57		
11	July 24	do	do	Henry Dennis	96.37	Salem, Mass.	Lavender				14				
12	July 27	British	do	Maggie Mc.		Victoria, B. C.	Dodd	Dodd & Co.	57° 36'	171° 34'	20		561		
13	July 29	United States.	do	Molly Adams	123.43	Port Townsend	Jacobs.	Jacobs.	56° 44'	171° 33'	20		100		
14	July 30	British	do	Ariel	90	St. John, N. B.	Buckman	Buckman	56° 43'	171° 44'	19	2	51		
15	July 30	do	do	Teresa	63	Victoria, B. C.	Ferry	Robbington & Co.	56° 49'	171° 21'	23		168		
16	July 30	United States.	do	Allie I. Algar	79.42	Seattle.	Algar	J. Nixon.	56° 00'	171° 23'	18				
17	Aug. 1	do	do	San Diego	38.01	San Francisco	Nelson		Off Akoutan.		12			6	5
18	Aug. 13	British	do	Kate	58	Victoria, B. C.	McLean	C. Spring.	57° 52'	167° 20'	5	20			
19	Sept. 5	do	do	Mary Ellen	63	do	McLean	McLean	Popoff Straits.		23		1,700		

* Picked up from Bessie Rutter.

Fully 90 per cent of all seals seenred by us in the Bering Sea were cows, in milk. We seldom captured a bull, one of which we shot over twelve times and afterwards it escaped. There are not so many seals lost in the Bering Sea as there are on the coast. We caught seals all the way from 50 to 250 miles from the rookeries on the Pribilof Islands. We caught female seals, in milk, near the Seventy-two Pass, in the Bering Sea. The Seventy-two Pass is about 230 miles from the Pribilof Islands. *Wm. Short, p. 348.*

We caught 767 seals in Bering Sea that year [1884] from 30 to 150 miles off the seal islands. The most of them were females, for the reason that they are not as cute and wild as the males. *Jas. Sloan, p. 477.*

A great many of the female seals had their breasts full of milk, which would run out on the deck when we skinned them. * * *. My third voyage was in 1889. I sailed from Yokohama on the *Arctic*, about the latter part of January. We cleared under the American flag, and * * *. We entered Bering Sea about the 17th of May and caught about 900 seals, the most of them around the fishing banks, just north of the Aleutian Islands. The majority of them were mother seals.

And the majority of seals taken in Bering Sea are cows with milk. But a very few yearlings are taken, and once in a while an old bull is taken. The male seal taken are between two and four years old. * * *. I have taken female seals 80 miles off the Pribilof Islands that were full of milk. *Fred. Smith, p. 349.*

Have killed cow seals that were full of milk over 40 miles from the Pribilof Islands. *Joshua Stickland, p. 350.*

We entered the Bering Sea in June through Seventy-two Pass and caught about 100 seals, when we were ordered out of the sea. They were all females that had given birth to their young. *John A. Swain, p. 350.*

I have never captured any cows in milk along the coast, but when in the Bering Sea in 1889 I sealed off about 90 miles from the seal islands and caught cows in milk there. *John Tysum, p. 391.*

The majority of seals killed in the water are females, and all the females killed in Bering Sea are mothers who have left their pups on the rookeries and gone some distance from the islands in search of food. *Daniel Webster, p. 183.*

First. That 95 per cent of all the seals killed in the Bering Sea are females. *Theo. T. Williams, p. 493.*

The statement I made that the capture of 168,000 skins meant the death of 720,000 seals needs some explanation. The sealing fleet begins work in the Bering Sea about June and is all back home by the end of September. During this period there are but few seals in the waters *T. T. Williams, p. 502.*

of Bering Sea, except females. The male seals are all at the breeding islands, either guarding their harems or waiting the coming of the females. Ninety-five per cent of all the seals killed during summer and autumn in the Bering are females.

Thomas Mowat, esq., inspector of fisheries for British Columbia, in his report to the governor-general of Canada, says that only 1 per cent of the Bering collection are pups.

The female seals killed in the Bering are either on their way to give birth to their young or have left their pup on the islands, and, guided by that instinct given by nature to all mothers, have gone forth to search for food to sustain the life of the little one. In either case the death of the mother means the death of the young.

That thousands of the female seals were captured by the pelagic hunters in Bering Sea during the season of 1891, the most of which had to be secured quite a distance from the rookeries, owing to the presence of armed vessels patrolling the sea for miles around the islands, and that the slaughter of the seals was mostly of females, was confirmed by the thousands of dead pups lying on the rookeries, starved to death by the destruction of their mothers.

We caught a few seals in there [Bering Sea]. When we first went in there we did not see many, but after we were in there a while we saw plenty of them that had large breasts that were full of milk, and our catch were most all females; the average would be about one male to ten females, and we killed cows in milk 150 miles from the seal islands.

John Woodruff, p. 506.

DEAD PUPS ON THE ROOKERIES.

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Dead "pup" seals, which seemed to have starved to death, grew very numerous on the "rookeries" these latter years; and I noticed when driving the "bachelor" seals for killing, as we started them up from the beach, that many small "pups," half starved, apparently motherless, had wandered away from the breeding grounds and became mixed with the killable seals. The natives called my attention to these waifs, saying that it did not use to be so, and that the mothers were dead; otherwise they would be upon the breeding grounds.

H. N. Clark, p. 159.

There were a good many dead pups on the rookeries every year I was on the island, and they seemed to grow more numerous from year to year. There may not, in fact, have been more of them, because the rookeries were all the time growing smaller, and the dead pups in the latter years were more numerous in proportion of the live ones.

Alex. Hansson, p. 159.

The seals were apparently subject to no diseases; the pups were always fat and healthy, and dead ones very rarely seen on or about the rookeries prior to 1884. Upon my return to the islands, in 1886, I was told by my

H. H. McIntyre, p. 51.

assistants and the natives that a very large number of pups had perished the preceding season, a part of them dying upon the islands and others being washed ashore, all seeming to have starved to death. The same thing occurred in 1886 and in each of the following years to and including 1889. Even before I left the islands, in August, 1886, 1887, and 1888, I saw hundreds of half-starved, bleating, emaciated pups wandering aimlessly about in search of their dams, and presenting a most pitiable appearance.

But facts came under my observation that soon led me to what I believe to be the true cause of destruction. For instance, during the period of my residence on St. George Island, down to the year 1884, there were always a number of dead pups, the number of which I can not give exactly, as it varied from year to year, and was dependent upon accidents or the destructiveness of storms. Young seals do not know how to swim from birth, nor do they learn how for six weeks or two months after birth, and therefore are at the mercy of the waves during stormy weather. But from the year 1884 down to the period when I left St. George Island, there was a marked increase in the number of dead pup seals, amounting, perhaps, to a trebling of the numbers observed in former years, so that I would estimate the number of dead pups in the year 1887 at about five or seven thousand as a maximum.

I also noticed during my last two or three years, among the number of dead pups, an increase of at least 70 per cent of those which were emaciated and poor, and in my judgment they died from want of nourishment, their mothers having been killed while away from the island feeding, because it is a fact that pups drowned or killed by accidents were almost invariably fat. Learning further, through the London sales, of the increase in the pelagic sealing, it became my firm conviction that the constant increase in the number of dead pups and the decrease in the number of marketable seals and breeding females found on the islands during the years 1885, 1886, and 1887 were caused by the destruction of female seals in the open sea, either before or after giving birth to the pups. The mother seals go to feeding grounds distant from the islands, and I can only account for the number of starved pups by supposing that their mothers are killed while feeding.

I visited the Pribilof Islands in 1890 and made a careful study of the conditions of seal life on those islands. I discovered late in the season a large number of dead pups lying upon the rookeries, which had the appearance of having been starved to death.

NO DEAD PUPS PRIOR TO 1884.

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Poaching in Bering Sea had not begun in those years [from 1868 to 1876] and it was a rare thing to find a dead pup about the shores or on the rookeries. I had frequent occasion after the close of the breeding season to visit all parts of the island, and there was no appearance of

gaunt or starved seals. Occasionally a dead pup was found that had been crushed to death by the bulls in their encounters with each other.

Up to 1884 there were never enough dead pups on the rookeries to cause any remark. Occasionally one would be trampled to death by the fighting bulls, but the loss was almost nothing until the marine hunters began their work, and it grew to be quite noticeable before I left the islands.

Jno. Armstrong, p. 2.

A dead pup was rarely seen, the dead being a small fraction of 1 per cent to the whole number of pups. I do not think while I was there I saw in any one season fifty dead pups on the rookeries, and the majority of dead pups were along the shore, having been killed by the surf.

Chas. Bryant, p. 8.

During the two sealing seasons I was on the islands I only saw a very few dead pups, and these had been killed by the larger seals crushing them. I have never seen a pup that was starved to death, or which had been abandoned by its mother.

S. N. Bugnitsky, p. 21.

There were not in 1880 sufficient dead pups scattered over the rookeries to attract attention or to form a feature on the rookery.

W. H. Dall, p. 23.

I have no recollection of ever having seen a dead pup on the breeding grounds, but I have seen a considerable number of silver-gray pups—that is, those that have learned to swim—which had been killed by being dashed against the rocks by the surf.

Sam'l Falconer, p. 161.

During the time I was on the islands I only saw a very few dead pups on the rookeries, but the number in 1884 was slightly more than in former years. I never noticed or examined dead pups on the rookeries before 1884, the number being so small.

H. A. Glidden, p. 110.

In performing my official duty I frequently visited the breeding rookeries, and during my entire stay on the island I never saw more than 400 dead pups on all the rookeries.

Louis Kimmel, p. 174.

But very few dead pups were ever seen on the rookeries until the sealing schooners began to come in the water around the island, and they have increased more and more since 1888.

Jac. Kotchooten, p. 131.

I never saw but a few dead pups on the rookeries until the schooners came into the sea and shot the cows when they went out to feed, and then the dead pups began to increase on the rookeries.

Nicoli Krukoff, p. 132.

I am informed that of late years thousands of young pups have died on the islands while the season was in progress. Certainly such condition did not exist during my residence on the Pribilof group. The "pups" were sometimes trampled upon by the larger animals, and dead ones might be seen here and there on the rookeries, but the loss in this particular was never large enough or important enough to excite any special comment. *J. M. Morton, p. 69.*

My observation in regard to the pup-seal life during those years was that the loss from natural causes was exceedingly small. I made frequent visits to the breeding rookeries during and after the close of the breeding season, and found only a very small number of dead bodies; it was a rare thing to find a dead pup seal. In one of my official reports I made an estimate of the loss from natural causes, which I fixed, I believe, at only 1 or 2 per cent of all classes. *H. G. Otis, p. 87.*

Never while I was on St. George Island did I see a dead pup on the rookeries, and I certainly should have noticed if there had been any number on the island. *B. E. Scribner, p. 89.*

During the year I was on the island of St. George I did not see to exceed twenty-five dead pups on the rookeries, and the bodies of these were not emaciated, but had evidently been killed by the old bulls climbing over them in their combats. *W. B. Taylor, p. 176.*

While I was on the island I never saw more than twenty-five dead pups on the rookeries during any one season. I have seen occasionally a dead one among the bowlders along the shore, which had probably been killed by the surf; but these dead pups were in no instance emaciated. *Geo. Wardman, p. 178.*

TIME OF APPEARANCE OF DEAD PUPS.

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The loss of life of pup seals on the rookeries up to about 1884 or 1885 was comparatively slight and was generally attributed to the death of the mother seal from natural causes or from their natural enemies in the water, or, as sometimes happened, sudden storms with heavy surfs rolling in from certain directions onto the breeding rookeries, but never at any time would a sufficient number of pups be killed to make it the subject of special comment, either among the natives or the employés of the company. *W. S. Hereford, p. 32.*

As I was not present on the islands in the fall of 1885, I am unable to make a statement as to the number of dead pups on the rookeries in that year, but in 1886 I saw a large number of dead pups lying about. *A. P. Loud, p. 38.*

These pups were very much emaciated, and evidently had been starved to death. * * *

In 1887 the number of dead pups was much larger than in 1886. In

1888 there was a less number than in 1887, or in 1889, owing, as I believe, to a decrease of seals killed in Bering Sea that year; but in 1889 the increase again showed itself. I believe the number of dead pups increased in about the same ratio as the number of seals taken in Bering Sea by pelagic sealers.

Between 1874 and 1883 predatory vessels occasionally appeared in Bering Sea, among them the *Cygnets* in 1874 and the *San Diego* in 1876, but the whole number of seals destroyed by such vessels was small, and had no appreciable effect upon the rookeries; in 1884 about 4,000 skins were taken in Bering Sea by three vessels, and starved pups were noticed upon the islands that year for the first time. In 1885 about 10,000 skins were taken in this sea, and the dead pups upon the rookeries became so numerous as to evoke comment from the natives and others upon the islands.

For instance, during the period of my residence on St. George Island, down to the year 1884, there were always a number of dead pups, the number of which I can not give exactly, as it varied from year to year and was dependent upon accidents or the destructiveness of storms. Young seals do not know how to swim from birth, nor do they learn how for six weeks or two months after birth, and therefore are at the mercy of the waves during stormy weather. But from the year 1884 down to the period when I left St. George Island there was a marked increase in the number of dead pup seals, amounting, perhaps, to a trebling of the numbers observed in former years, so that I would estimate the number of dead pups in the year 1887 at about five or seven thousand as a maximum.

While on St. George Island there were practically no dead pups on the rookeries. I do not think I saw during any one season more than a dozen. On St. Paul Island I never saw any dead pups to amount to anything until 1884, and then the number was quite noticeable.

NUMBER OF DEAD PUPS IN 1891.

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One thing which attracted my attention was the immense number of dead young seals; another was the presence of quite a number of young seals on all the rookeries in an emaciated and apparently very weak condition. I was requested by the Government agent to examine some of the carcasses for the purpose of determining the cause or causes of their death. I visited and walked over all the rookeries. On all dead seals were to be found in immense numbers. Their number was more apparent on those rookeries such as Tolstoi and Halfway Point, the water sides of which were on smooth ground, and the eye could glance over patches of ground hundreds of feet in extent which were thickly strewn with carcasses.

Where the water side of the rookeries, as at "Northeast Point" and the reef (south of the village), were on rocky ground the immense number of dead was not so apparent, but a closer examination showed that the dead were there in equally great number scattered among the rocks. In some localities the ground was so thickly strewn with the dead that one had to pick his way carefully in order to avoid stepping on the carcasses. The great mass of dead in all cases was within a short distance of the water's edge. The patches of dead would commence at the water's edge and stretch in a wide swath up into the rookery. Amongst the immense masses of dead were seldom to be found the carcasses of full-grown seals, but the carcasses were those of pups, or young seals born that year. I can give no idea of the exact number of dead, but I believe that they could only be numbered by the thousands on each rookery. Along the water's edge, and scattered amongst the dead, were quite a number of live pups, which were in an emaciated condition. Many had hardly the strength to drag themselves out of one's way; thus contrasting strongly, both in appearance and actions, with the plump condition and active aggressive conduct of the healthy appearing pups.

One day, during the latter part of August or forepart of September last (exact date forgotten), Col. Joseph Murray, one of the Treasury agents, and myself, in company with the British Commissioners, Sir George Baden-Powell and Dr. Dawson, by boat visited one of the seal rookeries of that island, known as Tolstoi or English Bay. On arriving there our attention was at once attracted by the excessive number of dead seal pups whose carcasses lay scattered profusely over the breeding ground or sand beach bordering the rookery proper, and extending into the border of the rookery itself. The strange sight occasioned much surmise at the time as to the probable cause of it. Some of the carcasses were in an advanced stage of decay, while others were of recent death, and their general appearance was that of having died of starvation. There were a few that still showed signs of life, bleating weak and piteously, and gave every evidence of being in a starved condition, with no mother seals near to or showing them any attention.

Dr. Dawson, while on the ground, took some views of the rookery with his kodak; but whether the views he took included the dead pups I could not say. Some days after this—can not state exact date—I drove with Mr. Fowler, an employé of the lessees, to what is known as Halfway Point, or Polovina rookery. Here the scene was repeated, but on a more extensive scale in point of numbers. The little carcasses were strewn so thickly over the sand as to make it difficult to walk over the ground without stepping on them. This condition of the rookeries in this regard was for some time a common topic of conversation in the village by all parties, including the more intelligent ones among the natives, some of whom were with Mr. J. Stanley Brown in his work of surveying the island and brought in reports from time to time of similar conditions at substantially all the rookeries around the island. It could not, of course, be well estimated as to the number thus found dead, but the most intelligent of the natives—chief of the village—told me that in his judgment there were not less than 20,000 dead pups on the various rookeries of the island and others still dying.

In the latter part of July, 1891, my attention was called to a source of waste, the efficiency of which was most strikingly illustrated. In my conversations with the natives I had learned that dead pups had been seen upon the rookeries in the past few years in such numbers as to cause much concern. By the middle of July they pointed out to me here and there dead pups and others so weak and emaciated that their death was but a matter of a few days. By the time the British commissioners arrived the dead pups were in sufficient abundance to attract their attention, and they are, I believe, under the impression that they first discovered them.

By the latter part of August deaths were rare, the mortality having practically ceased. An examination of the warning lists of the combined fleets of British and American cruisers will show that before the middle of August the last sealing schooner was sent out of Bering Sea. These vessels had entered the sea about July 1 and had done much effective work by July 15. The mortality among the pups and its cessation is synchronous with the sealing fleet's arrival and departure from Bering Sea.

There are several of the rookeries upon which level areas are so disposed as to be seen by the eye at a glance. In September Dr. Akerly and I walked directly across the rookery of Tolstoi, St. Paul, and in addition to the dead pups in sight they lay in groups of from three to a dozen among the obscuring rocks on the hillside. From a careful examination of every rookery upon the two islands made by me in August and September, I place the minimum estimate of the dead pups to be 15,000, and that some number between that and 30,000 would represent more nearly a true statement of the facts.

I did not observe any unusually large number of dead pups on the rookeries in my visits to the islands until the year 1891. During the month of September of that year, in company with Mr. J. Stanley Brown, I visited the Starry Ateel and eastern rookeries on St. George Island and saw more than the average number of dead pups and a great many living pups, evidently in very poor condition, and either dead or dying from starvation, differing in this respect from the condition in which they are ordinarily found at this time of the year. Subsequently, in November, 1891, I visited the Polovina rookery on St. Paul Island, and in the course of one hour's slow walking, covering perhaps $1\frac{1}{2}$ miles of ground, estimated the number of dead pup seals to be not less than 1,000. I consider this number enormously in excess of the normal mortality.

No mention was ever made of any unusual number of dead pups upon the rookeries having been noticed at any time prior to my visit in 1870, but when I again visited the islands in 1890 I found it a subject of much solicitude by those interested in the perpetuation, and in 1891 it had assumed such proportions as to cause serious alarm. The natives making the drives first discovered this trouble, then special agents took note, and later on I think almost everyone who was allowed to visit the rookeries could not close their eyes or nostrils to the great numbers of dead pups to be seen on all sides. In company with Special Agent Murray, Captain Hooper, and Engineer Brerton, of the *Corwin*, I visited the Reef and Gobatch rookeries, St. Paul Island, in August,

1891, and saw one of the most pitiable sights that I have ever witnessed. Thousands of dead and dying pups were scattered over the rookeries, while the shores were lined with emaciated, hungry little fellows, with their eyes turned toward the sea uttering plaintive cries for their mothers, which were destined never to return. Numbers of them were opened, their stomachs examined, and the fact revealed that starvation was the cause of death, no organic disease being apparent.

The schooners increased every year from the time I first noticed them until in 1884 there was a fleet of 20 or 30, and then I began to see more and more dead pups on the rookeries, until in 1891 the fleet of sealing schooners numbered more than a hundred and the rookeries were covered with dead pups. *Jno. Fratis, p. 108.*

It was also during these years that dead emaciated pups were first noticed on the rookeries, and they increased in numbers until 1891, in which year, in August and September, the rookeries were covered with dead pups. *Edward Hughes, p. 37.*

In 1891 there was a great many that were thin and poor, and they would crawl down to the water and make a noise for their mothers until they died, and when some of them were cut open they had no milk in their stomachs. *Jac. Kotchooten, p. 131.*

There were more dead pups in 1891 than ever before, and they were all starved to death. *Nicoli Krukoff, p. 132.*

There was a great number of dead pups upon the rookeries last year, whose mothers, I believe, were killed at sea by sealing schooners, and I do not expect to see many cows this year. *Aggei Kushen, p. 128.*

I have noticed more and more dead pups on the rookeries every year since 1888, and in 1891 they were so close together in places I could not step among them without stepping on a dead pup. *Aggei Kushen, p. 130.*

Q. Did you see an unusual number of dead pups on the rookeries this season?—A. Yes; I saw more dead pups this year than ever before. I went with Mr. J. Stanley Brown in August to assist him to make a survey of the rookeries and saw dead pups grouped in various places. *Noen Mandregin et al., p. 140.*

Q. Did you see dead pups on all the rookeries you visited?—A. Yes; but some rookeries had more than others.

Q. Did you see any dead pups on the rookeries the past season?—A. Yes; I saw lots of them. *Anton Melovedoff, p. 139.*

Q. How do they compare with the number observed in former years?—A. Much greater in proportion to the number of females on the rookeries than formerly.

It was noticed by everyone on the island at this time that as the seals decreased on the rookeries from year to year the number of dead pups increased, until in 1891 the rookeries were covered with them. From 1884 the schooners kept on increasing, until in 1891 there was more than one hundred. These schooners care very little about coming to the islands to take seals on the land, for they only have to hover around the fishing banks from 50 to 200 miles away and take all the seals they want. It is to these banks the cow seals go to feed after the birth of their young, and it is here they are shot and killed and the pups are left to starve and die on the rookeries.

Last year I saw thousands of such pups.

On the 19th of August, 1891, I saw the young pups lying dead upon the rookeries of St. Paul, and I estimated their number to be not less than 30,000; and they had died from starvation, their mothers having been killed at the feeding grounds by pelagic hunters.

Simeon Melovidov, p. 146. And as the seals decreased we found the rookeries covered with dead pups, which in 1891 lay in heaps upon the ground.

Q. Have you noticed any dead pups on the rookeries this past season, and in what proportion to former years?—A. *J. C. Redpath, p. 140.* I have seen an unusual number of dead pups this year on the breeding grounds; I may say twice as many as formerly.

In 1891 the rookeries on St. Paul Island were covered, in places, with dead pups, all of which had every symptom of having died of hunger, and on opening several of them the stomachs were found to be empty. *J. C. Redpath, p. 152.* The lowest estimates made at the time, placing the number of dead pups on the rookeries at 25,000, is too high.

CAUSE OF DEATH OF PUPS.

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The majority of the pups, like all healthy nursing animals, were plump and fairly rolling in fat. I have watched the female seals draw up out of the water, each pick out its pup from the hundreds of young seals sporting near the water's edge, and with them scramble to a clear spot on the rookery, and lying down give them suck. Although I saw pups nursing in a great many cases, yet I never saw one of the sickly looking pups receiving any attention from the female. They seemed to be deserted.

The cause of the great mortality amongst the seal pups seemed to me to have ceased to act, in great part, before my first visits to the rookeries; for subsequent visits did not show as great an increase in the masses of dead as I would have expected, had the causes still been in active operation. It seemed to me that there were fewer sickly looking pups at each subsequent visit. This grew to be more and more the case as the season advanced. When I visited the rookeries for the purpose

of examining the dead bodies, it was with extreme difficulty that carcasses could be found fresh enough to permit of a satisfactory examination. I examined a large number of carcasses. All showed an entire absence of fatty tissue between the skin and muscular tissue. The omentum in all cases was destitute of fat. These are the positions where fat is usually present in all animals. Well-nourished young animals always have a large amount of fat in these localities. The few carcasses which were found in a fair state of preservation were examined more thoroughly. The stomachs were found empty and contracted, but presented no evidence of disease. The intestines were empty, save in a few cases, where small amounts of fecal matter were found in the large intestines. A careful examination of the intestines failed to discover any evidence of disease. The heart, lungs, liver, and kidneys were in a healthy condition.

Such is the evidence on which I have founded my opinion that the cause of the great mortality during 1891 amongst the young seals on St. Paul Island, Bering Sea, was caused by the deprivation of mother's milk. The result of my investigation is that there was great mortality exclusively amongst nursing seals. Secondly, the cause of this mortality seemed to have been abated *pari passu* with the abatement of sea sealing. Thirdly, the presence of emaciated, sickly looking pups which were apparently deserted by their mothers. Fourthly, the plump, healthy appearance of all the pups I saw nursing. Fifthly, the emaciated condition of the dead. Sixthly, the absence of food in the stomachs, and their contracted condition. Seventhly, the absence of digested food in the small intestines. Eighthly, the absence of even fecal matter, save in small amounts in a few cases. Ninthly, the absence of structural changes in the viscera or other parts of the bodies to account for the death.

Q. Did you see any dead pups on the rookeries this season?—A. Yes; my attention was called to the matter by J. Stanley Brown, who requested me to examine *J. C. S. Akerly, p. 141.* them with a view to determining the cause of their death. I examined a number which had apparently recently died. Their bodies were entirely destitute of fat and no food to be found in their stomachs. After a careful examination I found no evidence of disease.

Q. What do you assign as the cause of their death.—A. I believe them to have died of starvation.

Q. Why do you think they died of starvation?—A. From the fact that nearly all the dead on the rookery were pups, and from absence of all signs of disease, emaciated condition of their bodies, and absence of food from their stomachs.

There were a great many dead pups on the rookeries during my last three years on St. Paul Island. Many of them wandered helplessly about, away from the groups or "pods" where they were accustomed to lie, and finally starved to death. We knew at the time what killed them, for the vessels and boats were several times plainly in sight from the Island shooting seals in the water, and the revenue cutters and company's vessels arriving at the island frequently reported the presence in Bering Sea and sometimes the capture of these marauding crews. If all had been captured and the business broken up the seal rookeries would be healthy and prosperous to-day, instead of being depleted and

broken up. I speak positively about it, because no other cause can be assigned for their depletion upon any reasonable hypothesis.

It was easy enough to see what they died of. They simply starved to death, wandering about and bleating until it made one's heart ache to see them. Their mothers had been killed off in the water, and the pups lived and suffered for weeks. They are very tenacious of life, holding out six or eight weeks or more after they lose their mothers.

These dead pups have increased from year to year since 1887, and in 1891 the rookeries were covered with dead pups. In my sixty-seven years' residence on the island I never before saw anything like it. None of our people have ever known of any sickness among the pups or seals and have never seen any dead pups on the rookeries except a few killed by the old bulls when fighting or by drowning when the surf washed them off.

Dr. Akerly, the lessees' physician at the time, made an autopsy of some of the carcasses, and reported that he could find no traces of any diseased condition whatever, but there was an entire absence of food or any signs of nourishment in the stomach. Before Dr. Dawson left I called his attention to what Dr. Akerly had done, but whether he saw him on the subject I can not tell.

I procured a number of these pups, and Dr. Akerly, at my request, made autopsies, not only at the village, but later on upon the rookeries themselves. The lungs of these dead pups floated in water. There was no organic disease of heart, liver, lungs, stomach, or alimentary canal. In the latter there was but little and often no fecal matter and the stomach was entirely empty. Pups in the last stage of emaciation were seen by me upon the rookeries, and their condition, as well as that of the dead ones, left no room to doubt that their death was caused by starvation.

Some men tell me last year "Karp, seals are sick." I know seals are not sick; I never seen a sick seal, and I eat seal meat every day of my life; all our people eat seal meat, white men eat seal meat, no one ever seen bad seal meat or sick seal. No big seals die unless we club them, only pups die when starved, after the cows are shot at sea. When we used to kill pups for food in November they were always full of milk; the pups that die on the rookeries have no milk. The cows go into the sea to feed after the pups are born, and the schooner men shoot them all the time.

The pups on the rookeries were fat and healthy, and while I was on the islands no epidemic disease ever appeared among them, nor did the natives have stories of an epidemic ever destroying them.

I was informed at the time [November, 1891] that the stomachs of dead pups had been examined by the medical officers at the island and no traces of food were found therein. From personal observation I am of the opinion that fully 90 per cent of them died of starvation, great emaciation being apparent. *Jno. C. Cantwell, p. 408.*

The greatest number of seals taken by hunters in 1891 was to the westward and northwestward of St. Paul Island, and the largest number of dead pups were found that year in rookeries situated on the western side of the island. This fact alone goes a great way, in my opinion, to confirm the theory that the loss of the mothers was the cause of mortality among the young. *W. C. Coulson, p. 415.*

A good many pups are killed at this period of life [before learning to swim] by being dashed against the rocks by the surf, which is particularly violent about these islands. *Sam'l Falconer, p. 165.*

I have never known of any sickness or epidemic among the seals, and I am of the opinion that the thousands of dead pups on the rookeries last year died of starvation on account of their mothers being shot and killed while feeding at the fishing banks in the sea. *C. L. Fowler, p. 25.*

I was present last year and saw some of the dead pups examined. Their stomachs were empty, and they presented all the appearances of starvation. I also noticed on the rookeries a great many emaciated pups, which, on a later visit, would be dead. It has always been the practice prior to 1891 for the natives to kill three to four thousand pups in November for food, and we always find their stomachs filled with milk.

When Mr. Webster had charge of the killing at Northeast Point, where he used to kill from 25,000 to 35,000 seals in a season, I generally did the cooking there, and I cooked seal meat every day, and we all ate it, and our people live on seal meat, yet I never saw a sick or a diseased seal or a carcass that was unfit for food. *John Fratis, p. 107.*

It is my opinion that the cows are killed by the hunters when they go out in the sea to feed, and the pups are left to die and do die on the island. *John Fratis, p. 109.*

But that year [1884] I examined them, and found them very much emaciated. In my judgment they were starved to death because their mothers had been killed while away from the islands in search of food. This, perhaps, would not be so if a cow would suckle any pup that comes to her, but she will not, and on the contrary will beat off any young seal which endeavors to nurse from her except her own. I know a cow recognizes her pup, but a pup never seems to distinguish its mother from other cows which it comes in contact with. *H. A. Glidden, p. 110.*

They were thin and poor, and appeared to have starved to death. *Alex Hansson, p. 116.*

It is a well-known fact that the female seals leave the islands and go great distances for food, and it is clearly proven that many of them do not return, as the number of pups starved to death on the rookeries demonstrates.

W. S. Hereford, p. 33.

I have been steward and cook at the company house for the lessees since 1882, and during the time when seals are killed for skins or food I have daily prepared and cooked the meat in various ways for the use of the table at which all white people board who live on or come to the island, and such a thing as a diseased seal has never been known. I was present when Dr. Akerly, the resident physician, made an examination of some of them and it was found that their stomachs were empty, and that they exhibited all the conditions of starvation.

Edward Hughes, p. 37.

None of our people ever knew of any sickness among the seals and pups, and their flesh has always been our meat food.

Jac. Kotchooten, p. 131.

I have often cut open dead pups and examined their stomachs, and found them empty, and the pups looked as if they had been starved to death. * * *

Nicoli Krukoff, p. 132.

When we used to kill pups for food and clothing in November, I often examined them, and always found plenty of milk in their stomachs.

I never saw or heard tell of a sick seal, and although we have always eaten the flesh of the fur-seal we have never found one that was diseased in any way.

I never saw a dead grown seal on the island during my twenty-five years' residence here, except odd ones that had been killed in fighting for places on the rookeries.

Aggei Kushen, p. 128.

I never heard any of the old men who have lived here for fifty years before my time speak of such a thing as sickness or death among the seals. We eat the flesh of the seal and it constitutes the meat supply of the natives, and seals from 2 to 5 years old have been killed by them for food every week during their stay on the land ever since the islands were peopled, and no one has yet found a diseased seal, either young or old.

I saw many of them cut open and examined by the doctor (Dr. Akerly) and their stomachs were empty. All of the dead pups were poor and thin and starved. I believe they all died of starvation because their

Aggei Kushen, p. 130.

mothers had been shot at sea when they went out to feed. I never saw a full fat pup or one who had a mother to feed him dead, except a few that were drowned in the surf.

For if the mother seals are destroyed, their young can not but perish; no other dam will suckle them; nor can they subsist until at least three or four months old without the mother's milk. The loss of this vast

H. H. McIntyre, p. 51.

number of pups, amounting to many thousands, we could attribute to no other cause than the death of the mother at the hands of pelagic seal-hunters.

Q. How do you account for so many dead pups?—A. I think their mothers were killed in the sea by the poachers while away from the islands in search of food. *Noen Mandregin et al.,*

Q. Why do you think that they were killed by poachers?—A. I was once on board a schooner which was seized at Northeast Point and saw a number of female skins on board. *p. 140.*

Q. How do you account for this?—A. I think the cows were killed by the poachers while away from the rookeries, and as mother seals nurse none but their own young, consequently the pups whose mothers were killed die from starvation. *Anton Meloredoff, p. 139.*

And I saw many of them opened, and in all cases there was not a sign of food in their stomachs. I never seen a pup that had a mother living to suckle it look poor or sick or starved; nor did I ever see or hear of a sick or diseased seal, although I have eaten the flesh of the fur-seal all my life, and it is and has ever been the staple meat ration of our people. *A. Meloredoff, p. 143.*

Seal meat is cooked at the company house every day while seals are to be had, and it is eaten by all the white men on the island. Men talk of epidemics among seals and of impotent bulls on the rookeries, but those who have spent a lifetime on the seal islands, and whose business and duty it has been to guard and observe them, have no knowledge of the existence of either.

And when they were examined by the physician I was present, and I saw them cut open and their stomachs were empty and not a sign of milk in them. *Simeon Melovidov, p. 146.*

The only solution of the problem is, in my opinion, that the cows or mother seals go into the sea to feed, and while they are there they are shot and killed by pelagic hunters, and the pups, deprived of sustenance, die upon the rookeries.

Until 1891 we were allowed several thousand pup seals for food, and I have often killed them, and saw others killing them, and they were always full of milk. The pups found dead upon the rookeries are always poor and thin and starved and empty. * * *

The flesh of the fur-seal has been eaten by our people ever since their first settling here, and it constitutes the chief part of their daily food, and it is eaten regularly by every white man on the island; and yet no one here has ever seen or heard tell of a sick or diseased seal.

The seals are never visited by physical disorders of any kind, so far as I could ascertain, and I have never seen on their bodies any blemishes, humors or eruptions which might be attributed to disease. *John M. Morton, p. 68.*

These latter pups I examined, and they seemed to be very much emaciated. In my opinion they died of starvation, caused by the mothers having been shot while absent from the islands feeding. Another cause of their starving is because a cow refuses to give suck to any pup but her own, and she recognizes her offspring by its cry, distinguishing its voice from that of hundreds of others which are constantly bleating. *J. H. Moulton, p. 71.*

The epidemic theory was urged very strongly in 1891, when the rookeries were found covered with dead pups; but a careful and technical examination was made on several of the dead bodies without discovering a trace of organic disease; while starvation was so apparent that those who examined them decided that it was the true cause of their death. Had sickness or disease attacked the seal herd it is only reasonable to suppose a few grown seals would be found dead where so many young ones had died so suddenly; but the most diligent search has failed to find a grown seal dead upon the islands from unknown causes.

From the discovery of the islands until the present time the flesh of the fur-seal has been the daily meat ration of the natives and of the white people, and yet it is a fact that a tainted or diseased carcass has never been known.

Some of these losses were due to their perhaps too early attempts to swim. When the pup is a few months old the mother seal conducts it to the water and teaches it to swim near the shore. If a heavy sea is encountered the weak little pup is liable to be thrown by the surf against the rocks and killed, but under natural conditions and with the protection to the rookeries formerly enforced at the islands the losses from this cause and all others combined (save alone the authorized killing) amounted to an infinitesimal percentage of the whole numbers in the herds.

Another theory, equally untrue, was that an epidemic had seized the herd; but investigations of the closest kind have never revealed the death, on the islands, of a full-grown seal from unknown causes. Let it be remembered that the flesh of the seal is the staple diet of the natives and that it is eaten daily by most of the white employes as well; and yet it is true that a sign of taint or disease has never been found on a seal carcass in the memory of man. It was not until so many thousands of dead pups were found upon the rookeries that the problem was solved.

The truth is that when the cows go out to the feeding grounds to feed they are shot and killed by the pelagic hunter, and the pups, deprived of sustenance, die upon the rookeries. Excepting a few pups killed by the surf occasionally it has been demonstrated that all the pups found dead are poor and starved, and when examined their stomachs are found to be without a sign of food of any sort.

The resident physician, Dr. Ackerly, examined many of them and found in every instance that starvation was the cause of death.

A double waste occurs when the mother seal is killed, as the pup will surely starve to death. A mother seal will give sustenance to no pup but her own. I saw sad evidences of this waste on St. Paul Island last season, where large numbers of pups were lying about the rookeries, where they had died of starvation.

I never heard of any disease among the seal herd, nor of an epidemic of any sort or at any time in the history of the islands.

So, too, is revolting the slaughter of the female seal that has given birth to her pup and gone out into the sea to find food to sustain the lives of both of them. She leaves her pup on shore, a helpless, tiny thing, soft and pulpy, and only able to wriggle and bark. Nature has taught her to recognize it among hundreds of thousands by its plaintive bleat, and the eagerness with which she rushes to its side when she comes ashore shows how much she loves to fondle and care for it. If the mother is killed the pup will linger on for a time, only to die of starvation in the end, or, because of weakness, be dashed to pieces in the first storm. Thousands of these orphan pups are found along the coast after a severe storm, dead, because they had not sufficient strength to exist in their natural element. Had their mothers been spared till it was time for the pups to take to the water and live on fish of their own catching, no storm that ever raged in the Arctic Ocean could disturb them. The seal pup can live a long time without food, which is a wise provision of nature, because the mother often has to go a very long distance to fish, but after a few days, if the mother does not return, the pup's vitality becomes exhausted and it dies.

If the mother of a young seal is killed the pup is very likely to die. It will be so weak that the first storm will dash it ashore and kill it, or it may die of starvation. I have seen pups hardly larger than a rat from lack of nourishment. A starved or neglected orphan pup is nearly sure to die. At one storm the natives found over three hundred pups washed ashore in a little cove, and the water around was full of dead pups. It is certain that nearly all the dead pups were orphans. The female seal when suckling her young has to go out into the ocean in search of food, and it is those females, or females on the way to the breeding grounds to give birth to the young, that we kill in the Bering Sea.

PROTECTION AND PRESERVATION.

OTHER SEAL HERDS.

DESTRUCTION OF.

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Patagonia.—The seal rookeries of Patagonia lie along the eastern coast, south of about latitude 42°, and up the western coast to the Gulf of Penas. Formerly *James W. Budington, p.* these regions abounded in seals, but now there 593. are not enough to pay for the hunting. In 1881 I took 600 seals off the western coast at Pietou opening. In 1888-'89 I again visited the coast, but only obtained 4 skins. Great quantities have been taken from the eastern coast, but at present there are no seals there.

Terra del Fuego and the islands in the vicinity.—These islands were at one time very abundant in seals, and were considered among the best rookeries. I visited them in 1879-'80 and took 5,000 skins. On my last voyage, in 1891-'92, I took only 900, and the majority of these came from another portion of the coast, which had not been worked for twelve or fifteen years. Thousands of skins had formerly been taken from these islands, but the animals are practically extinct there to-day.

Falkland Islands.—At one time these islands were very abundant in seal life, but excessive and indiscriminate killing has nearly annihilated them.

South Georgia Island.—This island at one time produced many thousand skins. I visited it in 1874 and got 1,450 skins, but it had been visited five years before, *James W. Budington, p.* when 800 skins were taken, and where those had 594. been taken I only got 86. I found a new rookery which had not been not been worked, to my knowledge, and then I got the remainder. In 1875 5 vessels visited the island and got 600 seals. The next season 4 vessels again worked it, getting 110. Since that time, until January, 1892, it had not been worked, and in that month I got from there 135 skins; none, however, coming from the old rookeries. The seals on South Georgia are practically extinct.

South Shetland Islands.—The shores of these islands were once covered with seals, but there are practically none there now. I don't think 100 skins could be taken from there at the present time, while I have known of 1 vessel taking 60,000 in a season. Since my experience began, however, the biggest catch was 13,000 by a fleet of 4 vessels; that was in 1871-'72. I was there at that time. The next year we took about 12,000, the fleet consisting of 6 vessels. In 1873-'74 our fleet of

7 vessels took about 5,000. Up to about 1880 from 100 to 200 seals were taken annually from these islands. Since 1880 the rookeries were not worked till 1888-'89. That season I visited the islands and took 39 skins. I again went there this year and took 41.

Sandwich Land.—In 1875-'76 I visited these islands; there were 3 or 4 vessels in the fleet. We searched the southern islands and found nothing. One vessel went to the northern islands and took about 2,000 skins. In 1876-'77 I was there again, the fleet consisting of 6 vessels. We took altogether about 4,000. The next season some vessels again visited the islands, but did not take 100 seals. In 1880-'81 2 vessels stopped there, but got no skins. From that time until I called there this season they had not been worked. I took 400 skins. Perhaps 200 more could be taken there, but not more, and that would clear them up, except what few young seals might live through this season. I have never been on the Lobos Islands, but in passing the mouth of the Platte in September I have seen seals in the water a hundred miles from the islands.

From hundreds of thousands of seals resorting to these islands and coasts, the numbers have been reduced to a few

Jas. W. Budington, p. 595. (Antarctic.) hundreds, which seek the land in scattered bands and rush to the sea on the approach of man.

Manner of sealing.—When I first began sealing in 1871, these rookeries had not been worked for twenty-five or thirty years, and the seals had had a chance to increase. The seals were then very tame, and were all killed with clubs. So tame were they you could go around among them like you could among cattle, and at one place they wouldn't get out of the way, so had to be knocked in the head in order to make room to set up a tent. Before 1880, however, the seals had become wild from hunting, and we had to use guns, killing them on the rookeries and in the water, wherever we could get at them.

Waste of life.—We killed everything, old and young, that we could get in gunshot of, excepting the black pups, whose skins were unmarketable, and most all of these died of starvation, having no means of sustenance, or else were killed by a sort of buzzard, when the mother seals, having been destroyed, were unable to protect them longer. So, too, these birds ate the carcasses of the dead pups, and little traces were to be found of the bodies. The seals in all these localities have been destroyed entirely by this indiscriminate killing of old and young, male and female. If the seals in these regions had been protected, and only a certain number of "dogs" (young male seals unable to hold their positions on the beaches) allowed to be killed, these islands and coasts would be again populous with seal life. The seals would certainly not have decreased, and would have produced an annual supply of skins for all times.

As it is, however, seals in the Antarctic regions are practically extinct, and I have given up the business as being unprofitable. The whole annual catch for 7 vessels has not exceeded 2,600 skins for the last four years.

I have observed the habits of the seals frequenting these localities, and I spent fourteen consecutive months on one island, called by us West Cliff, located on the coast of Chile, about a hundred miles north of the

Geo. Comer, p. 596. (Antarctic.)

Straits of Magellan. On that cruise we were three years away from

home, all of which time was spent about Terra del Fuego and the coast of Patagonia and Chile. During these three years (1879 to 1882) our catch was 4,000 seals, 2,000 of which were taken the first year, and we practically cleaned the rookeries out. In 1885 to 1886, I visited South Georgia as mate of a vessel. We had heard reports of the number of seals formerly taken there, but we did not get a seal, and only saw one. In 1887, while I was on Goughs Island, the vessel went over to South Georgia and took 3 seals. In the summer of 1887 we put six men on Goughs Island, and then went to the Crozets and Kerguelen Island, commonly called Desolation Island. On our return, nine months after, the gang had taken about 40 or 50 skins. Years before the English had had the working of Goughs Island, and had run the business out, so there were practically no seal there. We put a gang on the Crozets, expecting to do well. They staid there five months and took 3 seals.

The English at Cape Town had recommended us to go there, because they said that formerly they had taken a great number of skins there. We went to Kerguelen Island, and there I had charge of the sealing. We staid about four months, and took 18 seals. Prior to this visit I had spent five months at Kerguelen Island, and we then took 6 seals; that was in the winter of 1883 and 1884. About 1850 this island was visited by an American, who practically cleaned off the seals. The captain I shipped with, Joseph Fuller, visited the island in 1880, and took 3,600 seals, practically all there were; and this was the increase for the thirty years from 1850.

In the first part of a season we never disturbed the rookeries we visited, always letting the seals come on shore; then we would kill them on land with clubs or rifles. During the latter part of a season the seals become very wild, and we used to shoot them in the water from boats. When we shoot them in the water we lose certainly three out of five we kill by sinking, and we also wounded a great many more. Shooting seals in the water is the most destructive method of taking them as compared with the number of skins we have to show for our work.

Geo. Comer, p. 597.
(Antarctic.)

In 1870, I sent a vessel to Chillaway, off the coast of Chile, where there were thousands of seals in those waters. This last season the *Hancock* returned from a trip there, and the captain informed me that there were no seals worth mentioning. They would have been good rookeries to-day if they had been protected from marauders. The South Shetland rookeries were in the same condition in former years, while to-day you could not get a thousand dollars' worth of seals if you were to hunt there the whole season.

Geo. Fogel, p. 424.

In 1885 I made a voyage to the Galapagos Island as master of the schooner *Dashing Wave*, arriving there on the 30th day of August, and remaining until the 8th day of December of the same year. I obtained at this time on those islands about 1,000 fur-seal skins which were sold in London at an average price of about 7 shillings each. The seals upon this group do not migrate. I observed the birth of pups during frequent intervals during all the time I was there, and from the size of those a little older it was apparent that they are born at all seasons of

Frank M. Gaffney, p. 430.

the year. They live in deep caves under the cliffs, seldom going into the sun. Many of those obtained by me were pulled out of these places with long gaffs and killed. We slaughtered old and young of both sexes. These seals are browner and in other respects quite different from those obtained in Alaska, yet they are the true fur-seal.

During the past winter I have made a second voyage as master of the schooner *Hancock* to the southern waters in search of seals. I arrived at Rees Islet, off the coast of southern Chile (latitude $46^{\circ} 45'$ south, longitude $75^{\circ} 45'$ west) and remained there from December 1 to December 17, 1891, but obtained only one seal. I learned that seal still breed there in considerable numbers, but the Chileans are accustomed to visit this islet at an earlier time than the date of my visit, while the pups are young, and to kill all they can obtain. In 1880 Capt. Mills, of the schooner *La Ninta*, visited this islet and obtained a small catch, and I am credibly informed and believe that more than 12,000 seals have since been obtained there.

On my return voyage I touched at Juan Fernandez (latitude $24^{\circ} 21'$ south, longitude $76^{\circ} 10'$ west), but got no seals, though there were a few seen about there in the water. On December 25, 1891, I landed at Massafneros Island (latitude $34^{\circ} 11'$ south, longitude $80^{\circ} 50'$ west) and got 19 fur seal skins. There were, I should think, about 200 or 300 seals on the island when I arrived there, but as they went into the water, and did not come on shore again during my stay, I could not secure them. The pups at Massafneros are born in October, I think. They were old enough to swim when I was there.

A few days later I touched at St. Felix and St. Ambrose islands (latitude $26^{\circ} 10'$ south, longitude 80° west) and saw two fur-seals. Findlay's South Pacific Directory states that there were formerly large herds of fur-seals on these islands.

I touched also at Guadalupe Islands, but found nothing. The International Company have had the lease of these islands for several years past, and, as I am informed and believe, obtained some skins there as late as last year, but upon the occasion of my recent visit, the island was deserted by both seals and men; only a few goats remained.

Some eighteen years ago several thousand seals were taken on the Guadalupe Islands off the coast of Mexico, but

Isaac Liebes, p. 515.

their hunting being unrestricted, they were practically exterminated inside of three years. So much so that a vessel visiting these islands some four months ago was only able to secure 3 fur-seals, and the captain states that he does not think that even these would have been obtained had it not been for the large number of caves on that particular island, which probably gave shelter to a few of the animals while the extermination was being practiced. * * *

The Galapagos Island rookery was much larger than the Guadalupe, and the animals have also become nearly extinct there by reason of unrestricted hunting.

Several vessels have visited the rookeries in the vicinity of Cape Horn and the Straits of Magellan, and the last vessel returned from the latter place only last week with a catch of twenty-six skins, representing a seven months' cruise.

Heretofore some expeditions went from this port to the Shetland Islands, but their catches were so small that in the last few years no hunting has been done in that vicinity, it being understood that the animal is extinct there.

We left on the *Hancock* in October, 1891, to go on a sealing expedition in the south seas. We started in sealing off the coast of Patagonia and sealed in those seas until March. The seals are nearly all killed off down there, so that we got only about 20 skins. It is no use for vessels to go there sealing any more. I was there twelve years ago on a sealing expedition and the rookeries were full of seals. Now they have most all gone. They never gave the seals a chance to breed there. They shot them as soon as they came up on the rocks. * * *

If the seals on the South Shetland Islands had been protected, I think they would have been there by the million, because in one year they took 300,000 seals from the Shetland Islands.

THE RUSSIAN HERD.

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My first ideas of the areas of seal rookeries were gathered on the Pribilof Islands. Afterwards, upon going to the Commander Islands, I was struck with the comparative insignificance of the rookeries upon the latter group; yet we have been able to secure the catch, as shown by the appended statement, not only without detriment, but, as I believe, with positive benefit to the rookeries. I can not think, therefore, that the same methods pursued under my direction upon the Pribilof group worked any other result, and in this conclusion I am borne out by the testimony of every one conversant with the matter.

The history of sealing upon Robben Island substantiates the conclusion in regard to the other groups. From information gathered from various sources I learn that the Robben Bank was first visited and exploited by whalers about 1852 or 1853, and that in two seasons they obtained some 50,000 or 60,000 skins, almost completely "cleaning it out." I understood for several years thereafter the occasional vessel which touched there found the rookeries practically deserted. In 1870 the expedition in the bark *Mauna Loa* went to the island and secured about 15,000 seals. There was at this time no restriction upon the killing.

In 1871, in August, I think it was, the lease being already in force, I visited the island for the first time, having previously sent a guard ship there to protect the rookeries. It is an insignificant affair, being only about 2,000 feet long and 200 feet wide. The rookeries were also very small, and contained at that time of all classes about 800 seals, as I ascertained by a careful count, and in addition, a small number in the waters adjacent. I prohibited all killing from that year until such time as seemed prudent to resume, so as to give the rookeries opportunity to recuperate, leaving strict orders to the guard ship to protect them against molestation. Two years afterward it was evident that the rookeries had sufficiently recovered to warrant us in commencing sealing on a small scale, knowing that the killing of the useless male seals would accelerate the increase of the herd. From this time forward the herd showed a steady and healthy growth, enabling us to secure catches as per appended statement until 1873, when our guard was assaulted by the combined force of eleven marauding schooners and driven away. The rookeries were again badly depleted by these poachers. The following year the Russian Government stationed a military force on the islands, which was removed every fall, but so early that marauders

came there nearly every year after it had left and killed all the seals they were able to obtain, so nearly destroying the rookeries that we found it inexpedient to continue sealing after 1884 during the remainder of our lease.

FALKLAND ISLANDS.

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This fact was recognized by the Government of the islands, which passed an ordinance in 1881 establishing a close season from October to April for the islands and the seas adjacent thereto. My understanding of this ordinance was that the Government would seize any vessel taking seals close to or within 15 or 20 miles of the islands. It certainly would not have been allowed to take seals between the Falklands and Beauchene Island, 28 miles distant, which is considered part of the group. I understood this ordinance was passed on the ground that the seal resorting to these islands was the property of the Government and therefore it had a right to protect them everywhere. The Government, however, gave licenses to certain parties at from £80 to £100 a year to take seals during the close season. On account of these licenses I think the effect of the ordinance is nullified, although the islands are well guarded, and seals have increased very little, if at all, because of allowing hunting to take place under these licenses.

NEW ZEALAND.

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W. C. B. Stamp, p. 576. On the Lobos Islands and in New Zealand governmental regulations exist.

CAPE OF GOOD HOPE.

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While I was at Cape Town I saw a gang start out for sealing on that coast; the rookeries I understood to be about 25 miles from Cape Town. They are in the possession or control of a company, as I was then informed, which has the exclusive right to take seals there. We did not dare to go to those rookeries, because sealing was prohibited, and we would not have been allowed to take them in the waters adjacent thereto.

And I am told, although I know nothing about it, that regulations of some kind have been made in the colony of the Cape of Good Hope.

NEWFOUNDLAND REGULATIONS.

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I am opposed to second trips to the seal fishery, as I consider they are calculated to destroy the species, as all the seals killed on such trips are old and mature seals and at least 75 per cent of them are female seals.

I am now speaking of harp-seals. They are principally shot on the ice, but when the ice packs they are killed with bats. When shot on open or floating ice a large number of them escape into the water and die from bleeding.

I should say that for every seal shot and captured three escape wounded to die in the water. I have seen ten seals on one pan shot and wounded and all escaped. To kill and capture the seal the bullet must lodge in the head; if it strikes any part of the body the seal will manage to get to the edge of the pan and escape into the water. I know from my own knowledge that the number of seals brought in on second trips is yearly decreasing, and that the fishery is being depleted by the prosecution of this trip. Apart from the number of old, mature, and female seals destroyed, the hunting necessary for their capture prevents the male and female coming together as soon as they otherwise would, and makes the whole species more wary and more difficult to capture each year, so much so that even at a distance of from 4 to 5 miles the smoke of a steamer blowing over the ice in the direction of the seals will cause them immediately to leave the ice and take to the water.

On the first trip a good many seals are shot in the water, as at that season of the year, the month of March, they are fat and will float, but on the second trip, in April, they are seldom fired at in the water, for if shot they immediately sink. Except you are very close to them and very quick you can not secure one of them.

The hood-seals are generally in families—male, female, and young.

Seals have been taken the past season on the east coast of Greenland with S. S. G. shot in them. This kind of shot is only used by sealers on the Newfoundland coast.

I can not speak of the percentage of seals taken on a "second trip," nor of the sex. Nearly all the seals taken are bedlamers and old harps. The "second trip" *Richard Pike, p. 592.* generally covers the month of April. Nearly all seals taken on the "second trip" are shot on open and floating ice. Very few are shot in the water, for if hit there is very little chance of their capture, as they sink immediately. They are seldom or never fired at in the water, for unless they are very close there is very little chance of their being recovered. Fully one-third of the seals shot on the ice are lost, for when wounded they manage to crawl to the edge of the pan and into the water, and when once in the water they sink or die from their wounds.

Seals shot in the water in the month of March can be recovered, as they are fat and in good condition, and float, but in the latter part of April, when shot, they sink immediately. I am strongly against "second trips," as in my opinion they are causing a rapid decline in the industry, likely to lead to the extermination of the species by the killing of old and mature seals, and the destruction caused by the use of firearms. Some of the men resident in the northern harbors, who have been engaged in the actual killing of the seal, can give more particular information as to the age and sex of the seals killed. The young harp-seal takes to the water about the 25th of March, but when they "ride" the ice and the ice closes they are killed by batting—that is, when the ice is jammed and they can not escape into the water.

LOBOS ISLANDS.

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The fur-seal rookery on Lobos Island, off the mouth of the Rio de la Plata and belonging to the Republic of Uruguay, is one of the few that have escaped annihilation at the hands of the seal-hunter. Many fur-seals were taken here prior to 1820. Captain Morrell (*Voyages*, p. 154) found men stationed there to take seals in 1824, and Capt. Weddell (*Voyages*, p. 142), writing in 1825, refers to Lobos Island as being farmed out by the Government of Montevideo for sealing purposes, under regulations designed to prevent the extermination of the seals. As evidence that the matter has been long managed with discretion may be cited the statistics given in the affidavits of Messrs. Emil Teichmann and Alfred Fraser (of the firm of C. M. Lampson & Co., of London), which show that the catch for the last twenty years has averaged about 13,000 a year, or a total of some 250,000 fur-seal skins. This throws into strong relief the folly of the exterminating slaughter of fur-seals that has been waged unremittingly for nearly a century throughout the southern seas.

CAPE HORN.

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Argentina also claimed possession of Staten Land at Cape Horn, and since about 1882 or 1883 we have not been allowed to take seals at that point or in the waters near there, although the citizens of Argentina themselves have taken seals there every year, as I understand and believe.

ALASKAN HERD.

NECESSITY OF ITS PROTECTION.

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5. We are in thorough agreement that for industrial as well as for other obvious reasons it is incumbent upon all nations, and particularly upon those having direct commercial interests in fur-seals to provide for their proper protection and preservation.

Joint report of Bering Sea Commission, p. 309 of The Case.

NECESSITY OF ITS PROTECTION.

Opinions of naturalists.

Page 240 of The Case.

14. The results of pelagic sealing may be thus summarized: (1) The immense reduction of the herd at the Pribilof Islands and its threatened annihilation. (2) The extermination of the Pribilof herd will be practically accomplished within a few years if pelagic sealing is continued. (3) There will soon be too few seals left in the North Pacific and Bering Sea to render pelagic sealing commercially profitable. (4) The harm already done can not be repaired in years, even if all sealing,

Dr. J. A. Allen, Vol. I, p. 410.

whether pelagic or at the islands, be strictly prohibited for a considerable period.

I have read with great interest your report and conclusions about the causes of the decrease and the measures necessary for the restoration and permanent preservation of the seal herd on the Pribilof Islands in the Bering Sea, and according to your wish I have the pleasure to let you know that from the standpoint of a naturalist I perfectly agree with you in considering your conclusions and recommendations justified and necessitated by the facts stated by you as a result of your special investigation on the above-named islands.

By reason of the massacres of which it is the victim, this species is advancing rapidly toward its total and final destruction, following the fatal road on which the *Rhytina Stelleri*, the *Monachus tropicalis*, and the *Macrorhinus angustirostris* have preceded it, to cite only the great mammals which but recently abounded in the American seas.

Now, the irremediable destruction of an eminently useful animal species, such as this one, is, to speak plainly, a crime of which we are rendering ourselves guilty toward our descendants. To satisfy our instincts of cupidity we voluntarily exhaust, and that forever, a source of wealth which, properly regulated, ought, on the contrary, to contribute to the prosperity of our own generation and of those which will succeed it.

When we live on our capital we can undoubtedly lead a gay and extravagant life; but how long does this foolish extravagance last? And what is its to-morrow? Inextricable poverty. On the other hand, in causing our capital to be properly productive, we draw from it constantly a splendid income, which does not, perhaps, give the large means dreamed of, but at least assures an honorable competency, to which the wise man knows how to accommodate himself. By prudent ventures or by a well-regulated economy he can even increase progressively his inheritance and leave to his children a greater fortune than he had himself received from his parents. It is evidently the same with the question which occupies us, and it is for our generation an imperious duty to prevent the destruction of the fur-seal, to regulate strictly its capture—in a word, to perpetuate this source of wealth and to bequeath it to our descendants.

It would be a very easy reply to your highly interesting treatise of the fur-seal, which you have been kind enough to send us, when I only answered you that I agree with you entirely in all points. No doubt it would be the greatest value for the rookeries on the Pribilof Island, as well as for the preservation of the existence of the seal, if it would be possible to stop the sealing at sea at all. But that will no doubt be very difficult, when so many nations partake in the sealing, and how that is to go about I can not know. My own countrymen are killing every year many thousands of seals and *cystophoræ* on the ice barrier between Spitzbergen and Greenland, but never females with young; either are the old ones caught, or, and that is the greatest number, the young seals. But there is a close time, accepted by the different nations, just to prohibit the killing of the females with young. Perhaps a similar close time could be accepted in the Bering Sea, but that is a question about which I can not have any opinion.

I have followed with much attention the investigations which have been made by the Government of the United States on this subject. The reports of the commissioners sent to the Pribilof Islands have made known to naturalists a very large number of facts of great scientific interest, and have demonstrated that a regulated system of killing may be safely applied in the case of these herds of seals when there is a superfluity of males. What might be called a tax on celibacy was applied in this way in the most satisfactory manner, and the indefinite preservation of the species would have been assured, if the emigrants, on their way back to their breeding places, had not been attacked and pursued in every way.

There is, then, every reason to turn to account the very complete information which we possess on the conditions of fur-seal life in order to prevent their annihilation, and an international commission can alone determine the rules, from which the fishermen should not depart.

It is both as a naturalist and as an old commissioner of fisheries that I beg to say once more that I most entirely and most emphatically agree with you in the conclusions and recommendations you come to in your report on the present condition of the fur-seal industry in the Bering Sea, with special reference to the causes of decrease and the measures necessary for the restoration and permanent preservation of that industry, which conclusions and recommendations are fully supported and justified by the facts in the case.

I am far from attributing to myself a competent judgment regarding this matter, but considering all facts which you have so clearly and convincingly combined and expressed, it seems to me that the measures you propose in order to prohibit the threatening decay of the northern fur-seal are *the only correct ones promising an effective result.*

Regarding the object of your researches, I indorse your opinion that the decrease of the numbers of the fur-seal on the Pribilof Islands has been caused by pelagic sealing in the North Pacific and in the Bering Sea, and that this taking of the seals at sea has to be stopped as early as possible. * * *

If the pelagic sealing of the fur-seal is carried on still longer, like it has been executed during the last years, the pelagic sealing as a business matter and a "living" will soon cease by the full extermination of the useful animal.

Under such conditions I should say (looking at nothing but the preservation of the seals) that the best course would be to prohibit the taking of the fur-seals anywhere except on the Pribilof Islands, and to limit the take to such percentage as experience proved to be consistent with the preservation of a good average stock. The furs would be in the best order, the waste of life would be least, and, if the system were honestly worked, there could be no danger of overfishing.

As to the pelagic sealing, it is evident that a systematic hunting of the seals in the open sea, on the way to and from or around the rookeries, will very soon cause the complete extinction of this valuable, and, from scientific point of view, so extremely interesting and important animal, especially as a great number of the animals killed in this manner are pregnant "cows," or "cows" temporarily separated from their pups while seeking food in the vicinity of the rookery. Everyone having some experience in seal-hunting can also attest that only a relatively small part of the seals killed or seriously wounded in the open sea can in this manner be caught. We are therefore persuaded that a prohibition of pelagic sealing is a necessary condition for the prevention of the total extermination of the fur-seal.

Prof. Dr. Wilhelm Lilljeborg and Prof. Baron Adolf E. Nordenskjöld, Vol. I, p. 428.

The only rational method of taking the fur-seal, and the only one that is not likely to result in the extermination of this valuable animal, is the one which has hitherto been employed on the Pribilof Islands under the supervision of the Government. Any other method of taking the northern fur-seal should, in my opinion, be prohibited by international agreement. I should, at furthest, approve a local pursuit of the fur-seal, where it is destructive of the fisheries in its southern winter quarters. I regard pelagic fur-sealing as very unwise; it must soon lead to a decrease, bordering on extermination, of the fur-seal.

Dr. Alfred Nehring, Vol. I, p. 421.

No doubt the free pelagic sealing is a cause which will act to the destruction of the seal herds, and to that it must be put a stop as soon as possible. But, at the same time, I think that the yearly killing of about 100,000 young males on the Pribilof Islands must have some influence on the diminution of the herds, especially preventing the natural or sexual selection of the stronger males, which would follow if the young males were not killed in such a great number. So that, with the stopping of the pelagic sealing, I think that, at least for a few years, also the slaughter of so many young males in the Pribilof Islands should be prohibited.

Prof. Count Tommaso Salvadori, Vol. I, p. 423.

Philip Lutley Selater, PH. D., secretary of the Zoölogical Society of London, being duly sworn doth depose and say that in his opinion as a naturalist—

Dr. Philip L. Selater, Vol. I, p. 413.

1. Unless proper measures are taken to restrict the indiscriminate capture of the fur-seal in the North Pacific he is of opinion that the extermination of this species will take place in a few years, as it has already done in the case of other species of the same group in other parts of the world.

Seals are, unfortunately migratory animals, and set out on their journeys during the winter months. This is especially true of the pregnant females. They are hunted with constantly increasing rapacity, and are killed in the open sea by freebooters from all parts of the world. It is evident that the only remedy for such a state of things can be afforded by international protection.

Dr. A. von Middendorff, Vol. I, p. 430.

Having read with eager and critical attention the memoir you have addressed to me upon the condition of the fur-seal rookeries on the Pribilof Islands in Bering Sea, the causes of decrease and the measures necessary for the restoration and permanent preservation of the seal herd, I can not but completely agree with you in considering the conclusions and recommendations you arrived at quite justified and necessitated by the facts. I am also persuaded that the pelagic sealing, if pursued in the same manner in future, will necessarily end with the extermination of the fur-seal.

Opinions of London Furriers.

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And deponent further says that, in his judgment, if this pelagic sealing be not prohibited, it is a question of but a few years, probably not more than three, when the industry will cease, by reason of the extermination of the seals in the same way in which they have been exterminated on the South Sea islands by reason of no restrictions being imposed upon their killing.

Deponent has no doubt but that it is necessary in order to maintain the industry that steps should be taken to preserve the existence of the seal herd in the North Pacific Ocean and Bering Sea from the fate which has overtaken the herds in the South Seas. Of the steps, if any, which are necessary, in order to accomplish this result, deponent does not feel that he is in a position to state, as he has no personal knowledge of the regulations which at the present time exist, but it is obvious to deponent's mind that regulations of some kind, imposed by somebody who has authority and power to enforce them, are necessary to prevent the rookeries in the North Pacific Ocean from suffering the fate of the rookeries in the Southern Atlantic and Pacific seas, where, deponent is informed, no restrictions were at any time even attempted to be imposed.

Deponent says that the preservation of the seal herds found in the Northern Pacific region is necessary to the continuance of the fur-seal business, as those herds are the principal sources of supply of seal skins left in the world; and, from his general knowledge of the customs of that business, deponent feels justified in expressing the opinion that stringent regulations of some kind are necessary in order to prevent those herds from disappearing like the herds which formerly existed in large numbers off the South Pacific seas. Specifically what regulations are necessary deponent does not feel himself in a position to state.

That the maintenance of this business necessarily depends upon the preservation of the seal herds frequenting the northern Pacific regions from being overtaken by the destruction which was the fate of the seals formerly found in large quantities in the South Atlantic and South Pacific oceans.

That the continuance of the fur-seal business depends, in deponent's judgment, obviously upon the continued existence of the fur-seal herds from which the skins are derived. *Geo. Rice, p. 574.*

That the question of the preservation of the fur-seal herd has, of course, engaged deponent's attention and he has kept as close a watch on it as he was able to do without being on the ground. In regard to what might be done to preserve the herd deponent does not feel that he knows all the facts, and in consequence thereof it is difficult for him to express an opinion as to the manner in which the seal herds ought to be preserved or what regulations ought to be imposed for that purpose, but judging from the fact that for many years 100,000 seals were caught upon the Pribilof Islands without injury to the herds resorting to the rookeries on those islands, it is fair to conclude that unless some other cause intervened to diminish those herds killing that number of seals upon the islands would not have been detrimental to the herd.

The continual existence of the fur-seal business is dependent, in deponent's judgment, upon the preservation of the seal herds frequenting the Northern Pacific regions, and it is also a most important element in the industry that the supply of seal skins coming to the market each year should be regular and constant. *W. C. B. Stamp, p. 576.*

Deponent further says that some regulations are necessary for the preservation of the seal herds frequenting the Northern Pacific region, because it is a well-known fact that in the absence of any such regulations the seal herds which were formerly found in the South Atlantic and Pacific seas have been practically exterminated.

Deponent further says that the maintenance of this business, to his mind, obviously depends upon the preservation of the seal herds resorting to Bering Sea from the destruction which has overtaken the seal herds which were formerly found in the southern regions, and that whatever is necessary to be done to preserving the seal herds in Bering Sea ought to be done; but deponent having no knowledge of the business of killing seals, and having no scientific knowledge on the subject as a naturalist, is not in a position to relate what laws or regulations, in addition to those already existing, are necessary, if any such are necessary, in order to accomplish this desirable result. *Emil Teichmann, p. 582.*

Opinions of French Furriers.

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That the total production of seal-skins, which during the existence of the concession of the Alaska Company (which concession has now expired) amounted annually to 150,000 skins, is now hardly more than 70,000, coming from Alaska and the Copper Islands; that the consequence is a loss for everyone connected with the trade, for while there was an annual production of 150,000 skins there were, the deponent estimates, at least from two to three thousand persons engaged in this industry in Europe, and the natural consequence of the production having diminished by about one-half is that only about one-half the number of persons are required in the industry. *Emin Hertz, p. 587.*

That the said firm has often been informed that in order to capture one animal the persons engaged in the chase are frequently obliged to kill or wound three or four.

Emin Hertz, p. 588. That under these circumstances and in consequence of the destruction of the females, there is no doubt in the mind of deponent that the race is in great danger of being exterminated, to the profit of a few individuals and to the detriment of an important industry which up to the present has supplied the means of livelihood to thousands of persons in Europe and America.

That the said firm believes it to be to everyone's interest that the countries interested in the question (America and Russia) should take measures to safeguard their rights from the point of view of the capture of the seals, and that if not, if this pursuit in the open sea continues as in the past two years, the said firm firmly believes that in a short time the seal will exist only as a souvenir and will be completely exterminated.

That this industry, which has produced during twenty years nearly 25,000,000 of frames annually, will have disappeared, owing to this cause, to the detriment of a very great number of persons.

That we firmly believe that if the slaughter of the Northwest coast fur-seals is not stopped or regulated, the Alaska

Léon Révillon, p. 590. fur-seals will disappear entirely, as is the case with the seals of the Shetland Islands, from

where hardly a single seal has been received during the last ten years.

That the annihilation of the seals would be a very great loss for our country, for the fur of the seal can not be replaced by any other. It would also be a great loss for the workmen who are specially trained for the work upon these skins.

Opinions of American Furriers.

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In our opinion unless stringent measures be adopted on the part of those having authority on waters adjacent to these

C. G. Gunther's Sons, p. 532. islands and on all contiguous bodies, the fur-seal of Alaska will soon be exterminated and this valuable industry, alike of great importance to the people of Europe and America, will have received its deathblow.

And is of the opinion that open-sea seal fishing should be absolutely prohibited, and that if the same is not done the

Herman Liebes, p. 514. seals will within two, or at the utmost three, years be exterminated. This opinion is based upon the assumption that the present restriction imposed by the United States and Russia on the number, age, and sex of the seals killed upon the islands owned by them respectively are to be maintained.

I am of the opinion that the nations interested should arrive at some agreement by which the killing of seals in the water will be stopped.

Samuel Ullmann, p. 527.

From my knowledge of the sealing business I am satisfied that the seals will be entirely exterminated unless protected

Elkan Wassermann, p. 453. from the indiscriminate pursuit in the waters that has been going on for the last few years.

Deponent believes and says that if unrestricted pelagic sealing be allowed to continue throughout the whole of Bering Sea, not only will the United States Government soon be deprived of a considerable annual revenue, and over 2,000 English workmen of skilled employment, of which they now have a practical monopoly, but a portion of the civilized world will hereafter be deprived of a useful and valuable fur-bearing animal; and a great and irreparable injury will thus be done to various legitimate industries which have been built up by the authorized lessees of Russia and the United States and the firm of C. M. Lampson & Co., which industries are confined to one locality and which if fostered promise to continue in existence for an indefinite length of time; while in return for such injury there will be only a comparatively slight benefit of a few years' duration to a comparatively small number of men.

C. A. Williams, p. 539.

It is safe to say that these animals are all United States property, and having been born on United States soil and reared in United States waters in the twenty-one years that have elapsed since the cession of Alaska by Russia, and having the instinct of regular return to their home, which accords them a status in law, they would seem to be entitled to the protection of their Government, while they are in the acknowledged boundaries of their country.

C. A. Williams, p. 543.

To open the sea and the rookeries to the taking of seal by any who choose to seek them would be simply to surrender the herd to destruction. But a danger menaces the system and the seals which the Government alone can avert, viz, the intrusion of foreign vessels with armed crews in the waters of Bering Sea, with intent to kill seal in the water between the Aleutian chain of islands and the Pribilof group. In this water the seal rest and sport after their long migration; "here the females, heavy with young, slowly nearing the land, sleep soundly at sea by intervals, reluctant to haul out of the cool water upon the rookeries until the day and the hour which limits the period of gestation;" here, with gun and spear and drag net, these marauders desire to reap their harvest of destruction and for their selfish greed exterminate the animal which now, under the wise policy of Congress, plays so important a part in the economy and distribution of commerce. Three years of open sea would suffice in these waters to repeat the story of the southern ocean and the fur-seal would be of the past, and a valuable industry would be obliterated forever. Let the sea be open to all commerce that harbors no evil intent, but protect the seal life that swims in its waters and "hauls" on its shores. Let the sea be as free as the wind to all legitimate commerce, but protect the unique possession of seal life that harms none and benefits thousands.

C. A. Williams, p. 547.

Opinions of Pelagic Sealers.

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The extermination of the animals and of the industry will be swift and sure unless the female seals are protected from the devastation now going on, and I do not believe it possible to protect them as they should be unless the North Pacific as well as Bering Sea is included in any measures adopted to this end.

Jno. Armstrong, p. 2.

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—A. They will, in my opinion, not be entirely exterminated should sealing continue there as usual, but it will make the business of seal-catching so unprofitable that no one will desire to engage in it, I think.

It is only a question of three or four years, if this indiscriminate slaughtering of seals is not stopped, they will become exterminated.

Martin Benson, p. 405.

It is not alone in Bering Sea that the pups and cows are destroyed. Keep all vessels out of these waters, and let the same number of vessels as are now afloat hunt seals in the North Pacific, and in a few years there will be none in Bering Sea. If the present number of vessels engaged in sealing is permitted to continue in the business from two to five years longer I think the seals will be exterminated, or nearly so. I am certain the seals are doomed to extinction unless some immediate action is taken to protect them from the slaughter that is now going on. The sealers care nothing about preserving the seals, and say that the smaller the catch is the more valuable the skins will become in the market, and the higher the prices paid for them. In their whole conduct of the business they are controlled by the desire to kill as many as possible in order that they may enhance the value of future catches.

Wm. Brennan, p. 363.

If pelagic sealing is continued, especially with guns, in a few years the seal herd will become commercially destroyed.

Henry Brown, p. 318.

Killing seals without reference to age or sex is bound to exterminate the species in a very short time, and it seems to me that unless something is done in the northern sealing grounds the industry will soon be as unprofitable as it is in the Southern Hemisphere.

Jas. W. Budington, p. 596.

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—A. I think so; yes, sir.

Danl. Claussen, p. 412.

And if something is not done to protect them from slaughter in the North Pacific and Bering Sea, they will all be gone in a few years.

Peter Collins, p. 413.

If there had been strict regulations enforced, allowing us to kill only young "wigs" and not to disturb the breeding seals, I am convinced, and have no doubt, that all these rookeries would be full of seals to-day. It has been the indiscriminate killing which has caused the practical extermination of the fur-seals in the Southern Hemisphere.

Geo. Comer, p. 598.
(Antarctic.)

In my opinion, if the seals are not harassed and hunted at sea they will increase, and to preserve them from extermination pelagic hunting must be stopped.

F. F. Feeny, p. 220.

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—*Luther T. Franklin, p. 426.*
A. Certainly they will.

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—*Edward W. Funcke, p. 428.*
Yes; I think they will.

And if the large fleet of vessels going to these waters annually continues to hunt in the future as in the past few years it is bound to exterminate the seal. *Thos. Gibson, p. 432.*

I think that pelagic sealing should be stopped. *Eight months in a year is too much to hunt any animal, and the seal will soon become exterminated if this pelagic sealing is allowed to continue.* *Jas. Griffin, p. 434.*

Q. If you people are allowed to kill female seals still, is there any danger of exterminating them, do you think, supposing you go on and kill them promiscuously?—*Chas. G. Hagman, p. 435.*
A. I would be afraid that we would thin them out. I will not say exterminate them, but thin them out.

Q. If sealing continues as heretofore is there any danger of exterminating the herd?—*A. At this rate; yes, sir. Just keep at it and it will be only a few years before it will do away with the whole business.* *H. Harmsen, p. 443.*

Q. Is it your opinion, if sealing continues unrestricted, that they will be soon exterminated?—*A. I am of that opinion; yes, sir.* *Wm. Henson, p. 484.*

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—*Andrew J. Hoffman, p. 447.*
A. Yes, sir; it is.

Q. Have you any experience as to the habits of the fur-seals?—*A. Only following them up hunting. I have been listening to your questions to Capt. McLean and I have the same idea, except as to the protection.* *Gustave Isaacson, p. 439.*
I think they ought to be protected everywhere they can, both outside and inside the sea.

Q. If sealing continues as heretofore, is there any danger of exterminating them?—*A. Yes, sir; I think a few years will do that.* *Gustave Isaacson, p. 440.*

Q. Do you consider it necessary to protect the seals in the North Pacific?—*A. Yes, sir; it will be necessary to protect them anywhere where it can be done.*

Q. If sealing continues as heretofore, is there any danger of exterminating the herd?—*A. Yes, sir; I think so.* *Frank Johnson, p. 441.*

If hunting is not stopped on the islands in Bering Sea and the North Pacific Ocean the seal must become exterminated. *J. Johnson, p. 331.*

It is very important that the seals be protected in the waters of the North Pacific and Bering Sea from being killed by hunters, or they will be so near exterminated in a short time that it will pay no one to hunt them.

I think if something is not done to protect seals in the North Pacific and Bering Sea they will become exterminated in a very few years.

Wm. H. Long, p. 458.

Q. If sealing continues as heretofore, is there any danger of exterminating them?—A. If they continue as they have been since I have been in business I will give them another ten years; after that the sealing business will be about finished. It will not justify anyone to fit out from here or anywhere else, and people that look after the sealing interests, I do not think they will benefit anything by it, if they don't protect the seal life at present.

Alex. McLean, p. 438.

Q. If sealing continues as heretofore, is there any danger of exterminating them?—A. Yes, sir; they will all be exterminated in three years, and there will be no more sealing.

Dan'l. McLean, p. 444.

Jas. Maloy, p. 463.

Something certainly should be done to stop the killing, or there will be none left in a very short time.

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—A. There certainly will not be as many in a few years as there are now.

Frank Moreau, p. 468.

With the present increasing fleet of sealing vessels the seal herd will soon become exterminated unless some restrictions are placed upon pelagic sealing.

John Morris, p. 340.

I have no doubt in my own mind that unless some restrictive measures are taken, the seals will either be eventually exterminated or become so scarce it will not pay to hunt them. The fleet has increased greatly in the last few years, and will continue to do so as long as there is money in the business.

Morris Moss, p. 342.

If something is not done to protect seals in the North Pacific and Bering Sea, they will become exterminated in a very few years.

Niles Nelson, p. 470.

In my opinion, it is a shame to kill the female seal before she has given birth to her young. Pelagic sealing in the North Pacific Ocean before the middle of June is very destructive and wasteful and should be

Wm. Short, p. 348.

stopped.

If seal are not protected in the North Pacific Ocean and given a chance to raise their young, they must soon be exterminated, for most of the seals killed in the Pacific Ocean are cows with pup.

Fred. Smith, p. 349.

The seals are gradually being killed off by the hunters, and something should be done to protect them and stop the killing of female seals or they will soon be all gone. *E. W. Soren, p. 479.*

Q. Is it your opinion if sealing continues unrestricted that they will be soon exterminated?—A. It is my opinion that if sealing continues as usual they will be soon exterminated, and not before a great while, either. *Gustave Sundrall, p. 481.*

I am satisfied from my experience that they must protect the seals in Bering Sea. If not they will soon be killed off. It may also be necessary to protect them in the North Pacific, for the catch in those waters are nearly all females carrying their young. *Adolph W. Thompson, p. 486.*

I think if sealing was stopped in Bering Sea that seal would become more plentiful along the coast, and if it is not stopped the herd will soon be destroyed. *Peter Trearsheit, p. 271.*

If it be the desire of the Government to perpetuate them, it is very important that they be protected in the North Pacific as well as in the Bering Sea, since it has been my observation that the seals are easily alarmed, and the killing of them with firearms has a tendency to frighten the herd; nor do I think it possible to preserve the herd if the great slaughter of female seals is to be continued. I also believe that if sealing is stopped in the Bering Sea only, such fact would tend to increase the price of seal-skins, and there would be a much larger fleet fitted out for sealing in the Pacific than now, which would destroy the herd and prevent it from going into the Bering Sea. This opinion is based on the well known fact that the value of seal-skins is increased by the decrease in the number taken; and the higher the price of skins the greater the inducement to fishermen to hunt them in the North Pacific, which would soon destroy the seal-fishing industry everywhere. *Michael White, p. 491.*

Opinions of Indian Hunters.

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I think the white men should be stopped from killing seal off the coast of Alaska so that they will become plenty again. *Akatoo, p. 237.*

We believe that in order to permanently preserve the fur-seal life pelagic hunting should be stopped. *Jno. Alexandroff et al., p. 229.*

If pelagic sealing was stopped in Bering Sea and the Pacific Ocean, seals would become plentiful once more and the natives of Alaska could again make money by catching them. *Adam Ayonkee, p. 255.*

And they will soon be all gone unless schooners are all stopped from hunting seal along the coast of Alaska. *Johnny Baronoritch, p. 276.*

- I think the schooners should be prohibited from hunting seal out in the water off Prince of Wales Island, so that the seal will become plentiful again.
Maurice Bates, p. 277.
- Ivan Canetak et al., p. 230.* We believe that, in order to permanently preserve fur-seal life all pelagic hunting should be stopped.
- I think that if the schooners were prohibited from hunting seal in the North Pacific Ocean and Bering Sea the seal would soon become plentiful along the coast.
S. Chin-koo-tin, p. 257.
- If the schooners are stopped from taking seal off Prince Edward Island the seal will become plenty, and the Indians can kill them as they did a long time ago. Now the Indians can get very few.
Charlie Dahlin, p. 278.
- I think the schooners should be stopped from hunting seal so that the seal may become plentiful on the coast and the Indian may again have a chance to get them. It makes me feel bad to think the seal are most all gone and we can't hunt them as our fathers used to.
Echon, p. 280.
- Fassili Feodor, p. 231.* I think fur-seals would increase if all hunting at sea was stopped.
- I think the schooners ought to be prohibited from hunting seal, so the Indians could again get them again. Now they are obliged to go a long way in the canoes, and often go many days without seeing a seal, and come back tired.
Frank, p. 294.
- I think if the white men were prohibited from taking seal around Dixons Entrance, Prince of Wales Island, and in Queen Charlotte Sound the seal would become plenty once more, and the Indians could catch them again as they used to do.
Chas. Gibson, p. 281.
- Gonastut, p. 238.* Seal will soon be no more unless the Great Father stops the schooners from hunting.
- Jas. Gondowen, p. 259.* Think if all pelagic sealing was stopped in Bering Sea and the North Pacific Ocean seal would again become plentiful.
- Jas. Hartlinuk, p. 239.* I think if the schooners were prohibited from sealing they would become plentiful on this coast again.
- If the Great Father does not stop schooners from hunting seal along the coast of Alaska and in Bering Sea, the seal will soon be gone and the Indian must starve that makes his living by hunting them.
Sam. Hayikahla, p. 239.

I think all schooners should be stopped from hunting seal off Prince of Wales Islands, so the seal would become plentiful once more and the Indians could catch them again. *Johnnie Johnstin, p. 283.*

And unless this pelagic hunting is stopped in the North Pacific Ocean and Bering Sea the seal will soon all be gone, and the Indian hunters will have to dig clams in order to keep from starving. *P. Kahiktday, p. 261.*

If pelagic seal hunting was stopped in the waters of the Pacific Ocean and Bering Sea, seal would become plentiful once more. *M. Kothusduck, p. 263.*

All sealing in open waters by white men should be stopped. *Kinkooga, p. 240.*

I think the seal are hunted so much by schooners that they have no chance to get their food or anything else, and unless this is stopped seal will soon all be gone, and none will be left for the Indians. *C. Klananeck, p. 263.*

I think the schooners should be prohibited from hunting seal off Prince of Wales Island, so they can become plenty again. *Robert Kooko, p. 297.*

I think if all vessels were stopped from hunting seal in Bering Sea and the Pacific Ocean, the seal would again become plentiful. *Jno. Kowineet, p. 264.*

Unless the schooners are stopped the seals will all be gone soon, and then I do not know what my people can do for a living; they know nothing of other work and there is nothing else at the seal islands. *Nicoli Krukoff, p. 133.*

I think if schooners were prohibited from sealing in the open waters of Bering Sea and the North Pacific Ocean, seal would again become plentiful along this coast. *Geo. Lacheek, p. 265.*

There are too many schooners hunting off the Prince of Wales Island and Dixons Entrance, and if they are not stopped they will soon be all gone. *Fredk. Mason, p. 284.*

I think if the schooners were prohibited from taking seal they would become plentiful as they were years ago. *Fredk. Mason, p. 285.*

Unless all seal hunting is stopped in the water, the seal, like the sea-otter, will soon be all gone. *Smith Natch, p. 299.*

I think if the schooners are not prohibited from hunting seal they will soon become as scarce as the sea-otter now is. *Dan. Nathlan, p. 287.*

I think if the schooners were prohibited from taking seal they would become plentiful again. *Jos. Neishkaitk, p. 287.*

Ntkla-ah, p. 288.

I think if the schooners are not stopped from hunting seal, the seal, like the sea-otter, will soon be all gone.

It would be a good thing for the Indians if the schooners were prohibited from sealing in the Bering Sea and the North Pacific Ocean; if it is continued the Indians who depend on fur-seal for a living must

starve.

And unless something is done to prohibit the schooners from hunting seal off Queen Charlottes and Prince of Wales islands there will be no seals left for the Indians.

Abel Ryan, p. 299.

I think the Great Father should stop all schooners from hunting seal in Bering Sea and the Pacific Ocean, so the seal would become plentiful again and the Indian hunters would again have a chance to kill them.

Schkatatin, p. 243.

I think the Great Father should stop all sealing by schooners in the North Pacific Ocean and the seal would again become plenty, so the Indians could again kill plenty of them.

Showoosch, p. 244.

If the schooners are allowed to hunt seal any longer the seal will soon all be gone.

Jack Shucky, p. 289.

I think that if schooners were stopped from sealing in Bering Sea and the North Pacific Ocean seal would again become plentiful.

Martin Singay, p. 268.

I think the schooners should be prohibited from sealing in the North Pacific Ocean and Bering Sea. If that was done seal would become plentiful along the coast.

Jack Sitka, p. 269.

I think the schooners should be stopped hunting seal in the open waters of the Pacific Ocean and Bering Sea, and if they are not stopped at once the Indians who hunt fur-seal on the coast of Alaska for a living

will become very poor and probably starve to death.

Skeenong, p. 244.

Think if sealing by the schooners in the open waters of the North Pacific and Bering Sea was prohibited the seal would again become plentiful along the coast.

James Unatajim, p. 272.

Think if all pelagic seal hunting was stopped the seal would increase along the coast and become plentiful once more.

Charlie Wank, p. 273.

Hunting seal by white man must be stopped or the seal will soon be all gone.

Billy Williams, p. 301.

I think that all vessels should be prohibited from hunting seal in the water, to give the seal a chance to increase again. If something is not done the seal will soon be all gone and will soon be as scarce as the sea-otter.

Fred Wilson, p. 301.

I think if all pelagic seal hunting was stopped the seal would soon become plentiful on the coast. *Michael Wooskoot, p. 275.*

And unless they are stopped from hunting them in schooners, the seal, like the sea-otter, will soon be all gone. *Billy Yeltachy, p. 302.*

Opinions of Other Witnesses.

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And should pelagic sealing in the North Pacific and Bering Sea continue, it is only a question of a very few years when seal in these seas, and especially at the seal islands, will be a thing of the past, for they are being rapidly destroyed by the killing of females in the open sea. *W. C. Coulson, p. 415.*

If the seal life is to be preserved for commercial purposes, the seals must be protected, not only in the Bering Sea, but in the water along the Pacific coast from the Aleutian Passes to the Columbia River. *W. C. Coulson, p. 416.*

I believe the days of the fur-seal are pretty much over, and if the remnant is to be saved, they must be protected in the waters of the North Pacific as well as in those of Bering Sea, from the rifle and shotgun of the hunter. I am of the opinion that it will take careful nursing for some years, under the most favorable circumstances, to restore the number of seals to anything like what it was prior to 1878. *Leander Cox, p. 417.*

I have had ample opportunity to form an opinion in regard to the effect upon the herd of the killing of female seals. The female brings forth a single offspring annually, and hence the repair of the loss by death is not rapid. It is evident that the injury to the herd from the killing of a single female, that is, the producer, is far greater than from the death of a male, as the seal is polygamous in habit. The danger to the herd, therefore, is just in proportion to the destruction of female life. Killing in the open waters is peculiarly destructive to this animal. No discrimination of sex in the water is possible, the securing of the prey when killed is, under the best of circumstances, uncertain, and as the period of gestation is at least eleven months, and of nursing three or four months, the death of a female at any time means the destruction of two, herself and the fetus, or, when nursing, of three, herself, the nursing pup, and the fetus. All killing of females is a menace to the herd, and as soon as such killing reaches the point, as it inevitably must if permitted to continue, where the annual increase will not make good the yearly loss, then the destruction of the herd will be equally rapid and certain, regarded from a commercial standpoint, though a few individuals might survive.

I have conversed with a great many persons who have been engaged in sealing in the northern waters, and their uniform testimony is to the effect that the open-sea hunting is rapidly destroying the fur-seals, and that it is only a question of a few years until they entirely disappear if the pelagic sealing continues. *Jas. H. Douglass, p. 419.*

I am of the opinion, from what I know of the habits and nature of the fur-seal and what I have learned of open-sea sealing, that the Pribilof seal herd should be protected in all waters which they frequent. Otherwise it is only a matter of a very short time before they will be exterminated.

If the seals become extinct, I can not conceive what these natives would do for a livelihood; they know no other occupation save seal driving, which has been pursued by them and their ancestors for a century. The destruction of the seal herd would result in removing their sole means of sustenance and in their being plunged into poverty, and probable return to barbarism. The only way to keep them from starvation would be to remove them from the islands, and for the Government to support them.

The Pribilof seal herd should be protected, both in Bering Sea and the North Pacific Ocean, because the injury to seal life, bringing about a decrease in the size of the herd, is caused by the slaughter of females in the open sea. If the seals are thus protected, and the existing methods and regulations are carried out on the islands, the seal herd will not decrease, but on the contrary, in my opinion, will increase. If the seals are not protected in these waters the herd will be exterminated in a very short time. It is only, therefore, by protecting the seals everywhere in the sea and ocean that seal life can be preserved.

The natives, for whom I am entitled to speak, as being one of them, and receiving a share from the proceeds of the sealeries, protest that the United States Government ought to have protected the rookeries against deep-sea seal fishing, because we believe the seals rightly belong to us and should not be killed when they are away from their island home. We earnestly pray for the protection to which we are justly entitled.

The ruthless practice of killing seals by shooting them in the sea is not only extravagant in the loss of skins, but is also a wanton and senseless destruction of a valuable and useful animal, and must necessarily soon lead to its extermination, if not discontinued.

It will be readily seen that the demoralization produced by a sealing fleet of fifty to a hundred vessels with from 1,000 to 2,000 men scattered over the sea, hunting and shooting indiscriminately, would soon put an end to all seal life in those waters.

Owing to the decrease of fur-seals on our own coast, marine hunters have, during the last few years, turned their attention to the Asiatic waters, and are now hunting them there. These Asiatic seals have their breeding grounds on the Commander Islands and Robben Banks. Last year several additions were made to the Asiatic fleet, and large catches were secured in those waters, including the fitting out of still further expeditions this season for the same business. The distance is so great from this coast, and typhoons are so liable to be encountered, that

much larger vessels are fitted out, and equipped with more boats to each vessel than on the American side of the Pacific. Unless restricted, they will, in a very few years, by the destruction of the breeding seals, deplete these rookeries, as they have those of Alaska. In fact, two years ago last year, this depletion had already become apparent, and last year the Russian officer in charge ordered the catch to be reduced. I feel convinced, and it is the opinion of others familiar with the business, that it will be impossible for the company having the privilege of sealing there, to take this year even the 30,000, to which the quota is now reduced.

The business of pelagic sealing, if permitted to be carried on in the northern waters, must soon result in the extermination of the seal life and the destruction of a great and valuable industry. It must produce untold poverty and distress among the native people of the seal islands, and in various adverse ways affect the material interests of other Alaska settlements and communities.

J. M. Morton, p. 69.

As one result of my study of seal life on the islands I have come to the conclusion that if pelagic sealing in Bering Sea and North Pacific should continue for a period of five years to the same extent as now practiced, seal life upon the Pribilof Islands will have become extinct.

S. R. Nettleton, p. 76.

In contemplating this destruction, the natives of the seal islands are most deeply interested, for they are wholly dependent upon the seals for a livelihood. The ancestors of the three hundred people now upon the islands were taken there more than one hundred years ago, and their descendants have been born and bred to their occupation of seal killing and know no other. Prior to 1868 the Russians furnished them only indifferently well with coarse articles of food and clothing which the seals did not supply, but left them to live in unhealthy conditions in their damp underground houses, often unsupplied with fuel and not infrequently short of food. Under the liberal management of the Americans they have been provided with comfortable wooden houses, an abundance of coal to heat them, warm clothing, well-taught schools in comfortable schoolhouses, attractive churches in the Greco-Russian faith, to which they are devotedly attached, and, in short, with all the comforts and many of the luxuries of civilization. With these surroundings they have made remarkable progress, rendered possible by their income of more than \$40,000 per annum from the seal fisheries, without which they are left in absolute poverty, and must either leave their island home in search of other employment of which they know nothing, rely upon the charity of the Government for meager support, or starve. They rightly charge these dire alternatives upon the pelagic seal hunters, who have ruthlessly destroyed the herd in which every native had a certain vested right, in the exercise of which he deserved the protection of the Government into whose care he has come.

H. H. McIntyre, p. 53.

And it is plain to anyone familiar with this animal that extermination must soon follow unless some restrictive measures are adopted without delay.

Dan'l Webster, p. 184.

There can be no question that if the seals are not protected, and this tremendous slaughter that is now going on in the sea is not immediately stopped, there will be a total destruction of the herd in a very short while.

Theo. T. Williams, p. 495.

I suppose that if everyone could kill seal in the Bering in a few years the seal would all be dead except the males, and in time the seals would be exterminated.

Theo. T. Williams, quoting Capt. Olsen, p. 505.

MEANS NECESSARY.

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The maintenance of the birthrate, the vital and essential element in the preservation and perpetuation of the herd, requires the preservation of the whole of the class of breeding females, while only a small number of virile males are necessary or at all concerned in the matter.

Report of American Commissioners, p. 351 of The Case.

This is the great essential difference between the importance of the life of the female and that of the male to the conservation of the herd, and it is the fundamental proposition on which hangs the solution of the whole problem.

ABSOLUTE PROHIBITION OF PELAGIC SEALING.

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If the destruction of seals at sea is wholly suppressed it will result in restoring the rookeries to their former productiveness. But no partial measure of protection should be undertaken, because it can not to be enforced.

W. C. Allis, p. 99.

N. W. Andersen, p. 223.

For the preservation of seal life pelagic hunting should be stopped.

Andrew Anderson, p. 218.

I believe that in order to preserve fur-seal life pelagic hunting should be stopped absolutely.

C. H. Anderson, p. 206.

And am of the opinion that if such sealing were absolutely suppressed the species would again increase.

Johnny Baronovitch, p. 276.

I think if the schooners were all stopped from hunting seal they would become plentiful once more, and the Indians could catch them as they used to.

Wilton C. Bennett, p. 357.

I think that all pelagic hunting should be stopped, so that seal would have a chance to increase.

I think schooners should be prohibited from hunting seal in the North Pacific Ocean to give them a chance to increase again.

Edward Benson, p. 278.

Deponent says while he does not wish to express any opinion upon the matters which are in controversy, that nevertheless, looking at the question of preserving the seals from a natural-history point of view alone, and having no regard whatever to the rights of any individuals or nations, but looking at the matter simply from the point of view of how best to preserve the seals, he has no hesitation in saying that the best way to accomplish that object would be to prohibit absolutely the killing of all seals except upon the islands, and, furthermore to limit the killing of seals on the islands to the male species at particular times, and to limit the numbers of the males to be so killed. If, however, the rights of individuals are to be considered, and sealing in the open sea is to be allowed, then deponent thinks that the number of vessels to be sent out by each country ought to be limited, and the number of seals which may be caught by each vessel should be specified.

Deponent says that one reason why he thinks the killing of seals in the open sea should be prohibited and all killing limited to the islands is because deponent is of the opinion that when seals are killed in the open sea a large number must be killed which are not recovered, and consequently that the herds must suffer much greater loss than is measured by the skins of the seals caught or coming to market.

Deponent further says that one reason for this opinion is that he has had some small experience in shooting hair seals in the Scilly Islands, and has himself personally killed hair seals at a distance of 40 or 50 yards, which sank before he could reach them. Hair-seals are of the same general family as the fur-seals, and he has no doubt that the same thing occurs, and must occur, when the fur-seals are killed on the open sea.

It is my opinion that for the proper preservation of fur-seal life, all pelagic hunting should be stopped absolutely. *J. A. Bradley, p. 227.*

I am of the opinion that the Pribilof seal herd should be protected throughout Bering Sea and also in the North Pacific Ocean. *Charles Bryant, p. 9.*

In my judgment pelagic seal hunting should be absolutely prohibited both in Bering Sea and the North Pacific. In case there is not such prohibition the Pribilof seal herd will be either exterminated in a very short time or else the few which escape from the indiscriminate slaughter of pelagic hunters will be driven from the Pribilof Islands. *S. N. Bugnitsky, p. 22.*

It will be necessary to prevent at once further open-sea or coastwise killing of seals, both in Bering Sea and northern Pacific Ocean, if they are to save them from extinction on the Pribilof Islands. * * *

And if the pelagic hunter and his destructive methods were banished from the waters of the Bering Sea and North Pacific it would be but a few years when these islands would again be teeming with seal life.

I do not think it possible for seals to exist for any length of time if the present slaughter continues. The killing of the females means the death of her born or unborn pup, and it is not reasonable to expect that *Jas. L. Carthcut, p. 409.*

this immense drain on the herds can be continued without a very rapid decrease in their numbers, and which practically means extermination within a very few years. If the seals are to be saved there must be no killing at any time in the waters of Bering Sea, and it is also very important for their preservation that no females be killed in the North Pacific. They must be protected in both of these waters or they will be exterminated.

Knowing that pelagic hunting is the cause of the decrease in fur-seal life, we are in favor of its entire and absolute suppression and prohibition in order that said fur-seal life may be saved from extermination.

Vassili Chickinoff et al.,
p. 219.

Peter Church, p. 257.

I think all pelagic sealing should be stopped, so that seal would have a chance to increase.

Jno. C. Clement, p. 258.

And if pelagic sealing was stopped altogether, the seal would then become plentiful.

After twenty-two years' experience in Alaska in the fur business I have no hesitation in saying that if the fur-seal species is to be saved from extinction all pelagic seal-hunting must cease, as it is absolutely necessary that the female fur-seal should be allowed access to a rookery in order safely to deliver her young.

M. Cohen, p. 225.

Upon the amount of protection depends the safety of the seal herd in the future. If protected only upon the Pribilof Islands extermination will be rapid; if they are protected upon the islands and in the waters of Bering Sea also the decrease will be slower, but ultimate extinction will probably follow. To preserve them completely it is necessary that they should be protected in all waters, which they frequent at all times. Killing upon land can be regulated and interference with the females rigidly prohibited, but all killing at sea is indiscriminate and uncontrollable, and hence fatal in its consequences if carried on to any serious extent. Regarded as a factor in the world's commerce, extinction means, and is here used to mean, a diminution so great that the catch would not pay for hunting, without reference to the fact that a few scattered individuals may long survive the general mass.

Wm. Foster, p. 221.

In my opinion, in order to preserve the fur-seals, all pelagic sealing should be stopped.

Deponent further says that in his judgment the absolute prohibition of pelagic sealing, *i. e.*, the killing of seals in the open sea, whether in the North Pacific or the Bering Sea, is necessary to the preservation of the seal herds now surviving, by reason of the fact that most of the females so killed are heavy with young, and that necessarily the increase of the species is diminished by their killing. And further, from the fact that a large number of females are killed in the Bering Sea while on the search for food after the birth of their young, and that in consequence thereof the pups die for want of nourishment. Deponent has no personal knowledge of the truth of this statement, but he has information in respect of the same from persons who have been on the Pribilof Is-

Alfred Fraser, p. 557.

lands, and he believes the same to be true. Deponent further says that this opinion is based upon the assumption that the present restriction imposed by Russia and the United States on the killing of seals in their respective islands are to be maintained, otherwise it would be necessary to impose such restrictions as well as to prohibit pelagic sealing in order to preserve the herds.

I am, therefore, of the opinion that pelagic sealing should be absolutely prohibited both in Bering Sea and the North Pacific Ocean. If this is done and a few years are allowed the seal herd to recover from the enormous slaughter of the past seven years, the Pribilof Islands will produce their 100,000 skins as heretofore for an indefinite period.

Chas. J. Goff, p. 113.

We think that for the proper preservation of the fur-seal species, all pelagic hunting should be stopped absolutely.

Nicoli Gregoroff et al., p. 234.

It is my opinion, that for the proper preservation of fur-seal life all pelagic hunting should be prohibited and stopped absolutely, as I think the female seal should have access to a rookery in order safely to deliver her young.

A. J. Guild, p. 232.

I think that a close season at the Pribilof Islands for several years and the absolute suppression of pelagic sealing will cause the fur-seal species, or such of them as frequent the Pribilof Islands, to increase, though slowly, to their former numbers.

Chas. J. Hague, p. 208.

Unless [pelagic hunting is] discontinued they will soon become so nearly extinct as to be worthless for commercial purposes.

J. M. Hays, p. 27.

I firmly believe that the fur-seal industry at the Pribilof Islands can be saved from destruction only by a total prohibition against killing seals not only in the waters of the Bering Sea but also during their annual immigration northward in the Pacific Ocean.

M. A. Healy, p. 28.

This conclusion is based upon the well-known fact that the mother seals are slaughtered by the thousands in the North Pacific while on their way to the islands to give birth to their young, and extinction must necessarily come to any species of animal where the female is continually hunted and killed during the period required for gestation and rearing of her young; as now practiced there is no respite to the female seal from the relentless pursuit of the seal hunters, for the schooners close their season with the departure of the seals from the northern sea, and then return home, refit immediately and start out upon a new voyage in February or March, commencing upon the coast of California, Oregon, and Washington, following the seals northward as the season advances into the Bering Sea.

It is my belief that in order to preserve fur-seal life from extermination all pelagic hunting should be stopped and Bering Sea closed.

Norman Hodgson, p. 368.

In such a case as this I do not believe that the enforcement of a close time, either in Bering Sea or on the north-west coast, would be of any practical utility, unless the fishing is absolutely prohibited.

Prof. T. H. Huxley, Vol. I, p. 412.

Granting that open-sea seal hunting is to be allowed, the use of the gun should be absolutely prohibited, and a close time established which should extend from the beginning of the year until all gestation is finished. Further to protect the nursing female seals, it will be necessary to prohibit sealing within a zone extending at the very least 100 miles from the rookeries, in order that the females may be unmolested while feeding, and even under such restrictions there is no doubt many pups would die of starvation through the death of their mothers, which would be killed outside the protected zone. This method of protection I suggested to several owners and captains of the sealing vessels at Victoria, who all approved of the plan, naturally, to a certain extent, from selfish reasons. In my own opinion, however, the most perfect method of protecting the Alaska seal is to kill only the young bachelors, and as this discrimination can be made on shore alone, it naturally restricts all killing to the Pribilof Islands.

Owing to the steady decrease in fur-seal life of late years, due to the large number of vessels hunting them at sea, it is my opinion that in order to save the species from extermination all pelagic hunting of fur-seals should be prohibited and stopped absolutely.

Frank Korth, p. 235.

And believe that in order to preserve the species from actual and speedy extermination all pelagic hunting should be stopped absolutely, and the waters of Bering Sea closed.

Jas. E. Lennan, p. 370.

I believe that in order to preserve fur-seal life it is necessary to absolutely stop pelagic hunting and maintain a close season against killing for skins on the Pribilof Islands.

E. W. Littlejohn, p. 457.

Think if all pelagic sealing was stopped the seal would become plentiful again. If they keep on hunting them they will soon be exterminated.

J. D. McDouald, p. 267.

I am fully convinced from my knowledge of seal matters that if this indiscriminate and reckless destruction of the Pribilof seal herd continues as it has done in the past six years in Bering Sea and the North Pacific, the seals will be practically exterminated in a very few years, even if the United States Government should not allow any seals to be taken on the Pribilof Islands, for the destruction of females in the water has reached a number that can not be met by the annual increase.

In my judgment the seals should be protected in Bering Sea and the North Pacific, and that pelagic sealing should be entirely prohibited in the said waters.

And that the prohibition of such poaching is necessary to the preservation of the herds, and that from what he has himself seen he thinks, if such poaching be not prohibited the herds will be practically exterminated within five years. *T. F. Morgan, p. 65.*

I think all the schooners ought to be stopped catching seal, so the Indians could catch them again. *Matthew Morris, p. 286.*

I believe, to avoid certain extermination of the Pribilof seal herd in the near future, that they must be protected in Bering Sea and in the North Pacific Ocean. Pelagic sealing must be absolutely prohibited, because the majority of seals killed in this way are pregnant or milking females, and this is certain to cause extinction of the species very soon, if continued. If pelagic sealing is stopped, and the present regulations enforced on the islands, the seal herd will slowly but surely increase again, as they did before pelagic sealing had grown to such proportions as to affect seal life. *J. H. Moulton, p. 32.*

If this pursuit were stopped altogether, I think the fur seal species would increase again, although very slowly. *Arthur Newman, p. 271.*

Unless the pelagic hunter is prevented from taking seals in Bering Sea and in the North Pacific, the Alaskan fur-seal will soon cease to be of commercial value. *L. A. Noyes, p. 84.*

If the schooners were stopped hunting seal, they would become plenty once more, and my people would get plenty once more, and they need them very much. *Peter Olson, p. 289.*

In regard to the broad question of the protection of the seal life at our possessions in the Bering Sea, I have clear and decided views. I think there has been a criminal waste of this most precious animal life, and that the whole recent era of destruction should have been averted by the prompt and forcible interference of the Government. It is a great industry, that deserves the fullest protection, whether the Government and people of the United States, or those of Great Britain, or Canada, or Russia, are concerned. All have interests more or less in common in the perpetuation of the seal life and the preservation of this industry. The destruction of the seals results only in loss to all. When they are gone, there are no longer any seals to quarrel over and no need of the *modus vivendi*. I believe that our Government should have sought the coöperation of that of Russia, and that they should jointly have thrown a powerful fleet into those waters and protected the common interest. There is no question in my mind but that a vast deal of the destruction which has been going on in recent years is directly due to the lawless killing in the open sea on the annual migrations of the female seals northward to the seal islands for the purpose of bearing their young, and later, on their voyages from the rookeries to the adjacent fishing banks in search of food. You can no more preserve the seal life at these islands with these destructive methods in vogue than you could preserve a band of sheep or any race of domestic animals by turning

loose a pack of wolves to raid them between their pasture grounds and their corrals. A fur-seal is an animal of high and fine organism, with wonderful delicacy and sensitiveness, and however much attached to their natural land habitat they may be, are easily driven therefrom by violent methods, whether upon land or in the water. The whole secret, in my judgment, of the preservation of the seal life at the Pribilof Islands and in the Bering Sea lies in a prompt return to those early methods of preservation which produced such marvelous results for good during the earlier years of our possession of the islands. The suppression of unlawful and miscellaneous seal killing, whether in the open sea or along our northern coasts, is the essential thing, in my judgment, to resuscitate this great industry and prevent the utter extermination of the seal life.

To one like myself, having a practical knowledge of the subject, derived from close personal observation and study on the ground, it is amazing that there should have been so much delay on the part of the countries most concerned in arriving at a full agreement for the adequate protection of this unique and valuable industry. Indiscriminate poaching has only resulted in injury to the common interest, benefiting only a few lawless poachers who have been suffered to invade what should be treated as sacred marine territory.

I desire to add that I have not now, and never have had, any pecuniary or property interest whatever, directly or indirectly, in the sealing industry, and that I look upon the question simply as an American citizen desirous of seeing that which belongs to our Government and people defended and protected to the uttermost.

To one who has spent so many years among the seals as I have and who has taken so much interest in them, it does appear to be wrong that they should be allowed to be so ruthlessly and indiscriminately slaughtered by pelagic hunters, who secure only about one-fourth of all they kill. There is no doubt in my mind that unless immediate protection be given to the Alaskan fur-seal the species will be practically destroyed in a very few years; and in order to protect them pelagic hunting must be absolutely prohibited.

I think the seals ought to be protected both in Bering Sea and the North Pacific Ocean, and pelagic sealing entirely prohibited in those waters, or else a close season established, beginning March 1 and ending September 1 or October 1. In case the seals are not protected in this manner, I believe they will be exterminated within five years.

The annihilation of many rookeries formerly existing in different parts of the world has heretofore been accomplished by wasteful, and sometimes wanton, destruction on the land. Now, the only known rookeries of any size are guarded, and the vandals can not reach them; but they seem to have found methods of destruction almost as effectual as a seal club, and they kill as cruelly and wastefully as they formerly did on land. Other animals of less use to mankind than the seals are protected by a close season, or some other restriction, to save them from slaughter when breeding, but nearly all the seals killed in the water are mothers with young.

Bering Sea seems to be peculiarly adapted to the wants of the fur-seals. Its climate is moist, the sun rarely shines in summer, and the water abounds in fish. Here [in Bering Sea] also pelagic seal hunters find their best opportunity. They can stay about where they please under cover of the fog and defy any guard-ship to detect them. The range of the seals is very broad, and it is impossible to watch every square mile. The only way to stop the destruction of the rookeries is to stop pelagic sealing. If it is cruel and wasteful to destroy a whole species of useful breeding animals, it is just as cruel and wasteful, in proportion, to kill a few of them. Why should any be killed?

I do not believe any partial measure of protection will stop the depletion of the rookeries. If vessels may be fitted out with the paraphernalia for seal hunting, and skins brought into port and sold with impunity, the hunters will manage by hook or crook to evade any restriction.

Unless proper measures are taken to restrict the indiscriminate capture of the fur-seal in the North Pacific he is of the opinion that the extermination of this species will take place in a few years as it has already done in the case of other species of the same group in other parts of the world.

Dr. Philip Lutley Sclater, Vol. I, p. 413.

It seems to him that the proper way of proceeding would be to stop the killing of females and young of the fur-seal altogether, or as far as possible, and to restrict the killing of the males to a certain number in each year.

The only way he can imagine by which these rules could be carried out is by killing the seals only on the islands at the breeding time (at which time it appears that the young males keep apart from the females and old males), and by preventing altogether, as far as possible, the destruction of the fur-seal at all other times and in other places.

The seal herd which frequents St. Paul and St. George can be only preserved, in my opinion, by preventing all killing of seals except on the islands, where judicious regulations can be enforced, as to the number, sex, age, and conditions of the seals can be taken; otherwise extermination will result in a very short time. If the seal herd is protected, and the regulations now in force are maintained, a hundred thousand seals can be taken annually from these islands for an indefinite time, provided the seal life is allowed to regain its normal condition from the drain lately made upon it by the indiscriminate slaughter occasioned by open-sea sealing.

B. F. Scribner, p. 90.

I consider it necessary for the preservation of the seal herd which resorts to the Pribilof Islands, and for the prevention of their early extermination, that pelagic sealing should cease in all waters which they frequent.

L. G. Shepard, p. 189.

I think that all pelagic seal hunting should be stopped so the seal can become plentiful again, for now the seal are so scarce that the Indians can catch but very few, where in olden times they caught plenty.

Aaron Simson, p. 290.

If the schooners are not stopped from hunting seal they will soon all be gone.

Thomas Skowl, p. 300.

I am asked if a zone of prohibition about the islands, a territorial limitation, or a close season for pelagic sealing, one or all of these restrictions will not, in my opinion, prove a sufficient restraint upon marine hunters to allow the rookeries to grow again. I answer emphatically no. I do not believe they will suffice, and my answer is without personal bias, for I am not now engaged in the sealskin trade and have no interest in the industry other than that of the average American citizen. The scarcity of seals and consequent high price of skins stimulates the ingenuity of every man in the business either to evade restriction or to invent more certain methods for capturing the animals. The rookeries are doomed to certain destruction unless brought within the sole management of those on the islands, whose interest it is to take care for them. Marine sealing should be absolutely prohibited and the prohibition enforced.

It is my belief that for the permanent preservation of fur-seal life, all pelagic hunting should be prohibited absolutely.

It is, therefore, in my opinion, necessary that the seals should be protected, and all killing in the water prohibited in all waters which the seal herd frequents, and especially in Bering Sea and while the herd are en route to and from the islands through the Aleutian passes.

In my opinion, pelagic hunting should be stopped altogether in order to give the seal proper protection. I have resided in Wrangel the last year and a half.

Both in order to maintain the herd and to restore the seal-skin industry to a sure footing, I should like to see all taking of seals in the water prohibited.

I am of the opinion that all killing of seals in the water should be prevented, both in Bering Sea and the North Pacific, because the seals thus killed are slaughtered without discrimination as to age or sex. In case such killing be prevented in the water, such regulations can be enforced upon the islands that the Pribilof seal herd will yield a supply of skins for an indefinite period without reducing the size of the herd. If, however, the killing of seals in the water is not prevented, all calculations looking toward the preservation of them on the islands by the Government and the lessees will be of no avail, and the Alaska seal will be exterminated.

And deponent is of the opinion that if no restriction be imposed upon such indiscriminate killing as has been going on in Bering Sea and the North Pacific since the year 1885 by the poachers, the sealing industries of the North Pacific will follow the course of those industries that formerly existed in the southern seas; and that there is only a measurable time, say at the outside five years, when, if the present condition of things continues, the seals of Bering Sea will be as extinct as the seals of south sea islands.

Deponent says that the most complete protection to the herds would

be the absolute prohibition of open-sea hunting; but that it may be sufficient protection for the herds in the North Pacific if a close season can be arranged for all the seal north of the fiftieth parallel, north latitude, and west of the one hundred and fiftieth degree of west longitude from the 1st day of May to the 1st day of November. Deponent regards it as important that the seal herd should be protected as above indicated in the North Pacific, as otherwise they will be exterminated, even if sealing be prohibited in the Bering Sea.

I think the schooners should be stopped from hunting seal, and then they would become plenty again, and the Indians could kill them again as they used to.

Paul Young, p. 292.

A CLOSE SEASON.

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I think seal ought to be protected in the North Pacific and Bering Sea from April 1 to September 1, in order to give them a chance to raise their young.

Peter Anderson, p. 313.

I do not think it is right to kill the mother seals before they have given birth to their young, as it is a fact that when we kill the mother seal we also kill her pup. They should not be hunted for six weeks after giving birth to their young.

H. Andrius, p. 314.

Q. In your opinion, is it absolutely necessary to protect the cows in the Bering Sea to prevent the herd from being exterminated? If so, for what months in the year?

Geo. Ball, p. 483.

—A. It is my opinion that it is absolutely necessary to protect the cows in Bering Sea during the entire year for a period of years.

I don't think it is right to kill the mother seal before they give birth to their young, for it is a fact that when you kill the mother you also kill her pup.

Bernhardt Bleidner, p. 315.

Pelagic sealing should be prohibited after April 1 of each year until such time as the young pups are able to subsist without nourishment from their mothers.

Henry Brown, p. 318.

If no seals were killed between the 1st day of April and the 1st day of September they would increase; but it would take international agreement to make killing of seals an offense during this season.

William Brennan, p. 363.

And in order to prevent the extermination of seals the hunting of them should be prohibited until after the mother seals give birth to their young. Sealers should be notified of a closed season before they go to the expense of fitting out.

Thos. Brown (No. 1), p. 319.

Q. What months of the year do you think they should be protected?—
A. From the 1st of July to the last of October I think they should be protected.

Danl. Claussen, p. 412.

If the present practice of seal-hunting be continued, it will be a matter of a short time when the seal herd will be commercially destroyed. I think there should be what is called a close season in seal hunting on the water, to extend from the 1st of April until such time after the cows have given birth to their young and have reared them to an age at which they can live without sustenance from their mother.

Louis Culler, p. 321. I think a closed season should be established for breeding seal from January 1st to August 15th in the North Pacific Ocean and Bering Sea.

And all seal-hunting in the waters should be stopped for a few years to give the seal a chance to become plenty again.

Luke Frank, p. 294.

Q. For what months in the year is it necessary to protect the cows in the Bering Sea?—A. From the first of May to the last of August.

Luther T. Franklin, p. 426.

Q. In your opinion is it absolutely necessary to protect the cows in Bering Sea to prevent the herd from being exterminated? If so, for what months in the year?—A. Yes, sir; I think it necessary from the 1st of July until the middle of September.

Edward W. Funcke, p. 182.

Chad George, p. 366. I think that all pelagic sealing should be stopped for five or six years, and the seal would become plenty again.

Arthur Griffin, p. 326. Seals ought not to be killed in the water during the months of April, May, June, July, and August.

I think a closed season should be established between May 1st and September 15th in North Pacific Ocean and Bering Sea, which would give them a chance to increase.

Martin Hannon, p. 445.

Q. Now, then, if the cow seals are to be protected in the Bering Sea, what month, do you consider it would be necessary to prohibit any being taken?—A. Say from the middle of June until the end of the year; something like that, the first of December.

H. Harmsen, p. 443.

I think that for the proper preservation of the seals all pelagic hunting should be prohibited until the mother seals have given birth to their young.

Jas. Harrison, p. 327.

Q. In your opinion, is it absolutely necessary to protect the cows in the Bering Sea to prevent the herd from being exterminated; if so, for what months in the year?—A. I think it necessary to protect the cows in the Bering Sea from the first of July to the last of November, in order to protect them from being exterminated.

Wm. Hensen, p. 484.

Q. In your opinion, is it absolutely necessary to protect the cows in Bering Sea to prevent the herd from being exterminated? If so, for what months in the year?—*Andrew J. Hoffman, p. 447.*
 A. Yes, sir; from the 1st of June until the 1st of August, in order to protect the herd.

I think that all pelagic seal hunting should be stopped for a number of years, and give the seal a chance to increase, and if this is not done they will soon become exterminated. *O. Holm, p. 368.*

Q. If the cow seals are to be protected in the Bering Sea, what month do you consider it would be necessary to prohibit any being taken?—A. I should consider it necessary to protect them all the time they are in the Bering Sea. *Gustave Isaacson, p. 440.*

In order to prevent the entire extermination of the fur-seal, I think all pelagic sealing in the Pacific Ocean on the coast of the United States, British Columbia, and Alaska, should be stopped; also in Bering Sea until the females have brought forth their young, about the 15th of July, after which all vessels should be allowed to enter Bering Sea and take seals without restraint any place outside of the legal jurisdiction of the United States. *Victor Jacobson, p. 328.*

Q. If the cow seals are to be protected in the Bering Sea what month do you consider it would be necessary to prohibit any being taken?—A. From the beginning of July to the end of the year. *Frank Johnson, p. 441.*

There is no way, in my judgment, of preventing the seals from being totally exterminated, except by effectually prohibiting the hunting of them, both in the ocean and Bering Sea during their breeding season, say from February until October, on the principle of the gaming laws on the land. *Jas. Kiernan, p. 451.*

I can not say as to seals appearing off the coast in less numbers each year, but I think some arrangement should be made for their protection by a close season during the time they are carrying and nursing their young. *Andrew Laing, p. 335.*

In order to prevent the extermination of the fur-seal species I am of the opinion that a close season in the North Pacific Ocean and in Bering Sea should be established and enforced from April 1 to November 1 of each year. *E. N. Lawson, p. 221.*

I think that a close season between the months of February and November in the North Pacific Ocean and Bering Sea should be established in order to prevent the extermination of the fur-seal species. *I. M. Lenard, p. 217.*

Deponent is further of the opinion that it would be necessary, in order to fully protect the herds, to prohibit, at least for a time, the killing of all female seals anywhere.

Herman Liebes, p. 514. Q. In your opinion, is it absolutely necessary to protect the cows in the Bering Sea, to prevent the herd from being exterminated?—A. It is absolutely necessary.

Chas. Lutjens, p. 459. Q. What months in the year do you think they should be protected?—A. The months when they are in the Bering Sea, from July 5 to November 1.

I think all pelagic sealing should be stopped for a few years in order to give the seals a rest, for they are now hunted eight months in a year, and if we expect them to increase again we must stop hunting them in Bering Sea and the North Pacific Ocean.

Geo. McAlpine, p. 266. Q. If the cow seals are to be protected in the Bering Sea, what month do you think it would be necessary to prohibit any being taken? Would you prohibit them being taken at any time or all times?—A. I think if they are prohibited at all they should prohibit them for about two months, principally July and August.

Q. How about September?—A. They are through breeding then, and the pups are ashore. There are only two months that they can interfere with them there for breeding purposes that I know of. The seasons get later every year. There are breeding dates, etc. Ten years ago they never used to be any later than August breeding there. Now they are getting later than that, and are getting on to September, because the world is changing, the climate is—the seals change according to the climate.

Q. If the cow seals are to be protected in the Bering Sea what months do you consider it would be necessary to prohibit any being taken?—A. From the 15th of June until the season finishes; that would be the first snow. The pups do not leave the islands on the first snow, but when the second snow comes they leave the islands. They ought to be protected until the second snow; that is, in November.

Danl. McLean, p. 444. Q. If the cow seals are to be protected in the Bering Sea what months do you consider it would be necessary to prohibit any being taken?—A. From the 15th of June until the season finishes; that would be the first snow. The pups do not leave the islands on the first snow, but when the second snow comes they leave the islands. They ought to be protected until the second snow; that is, in November.

G. E. Miner, p. 467. I think if all sealing was prohibited from January 1 to August 15, in the North Pacific Ocean and Bering Sea, it would give sufficient protection to the seal.

That deponent is not in a position, by reason of possessing expert knowledge or personal acquaintance of killing seals, to pronounce a positive opinion as to what steps are necessary, if any, to accomplish this result, but he would suppose it reasonable to say that a close time, which should be universal in its application, for a specified period in each year, during which the killing of seals should be entirely prohibited, and the imposition of heavy penalties, say a fine of £1,000, for any violation of the regulations providing for such close time, would be effective to preserve the herds referred to; and deponent would, under any circumstances, increase the zone around the islands containing the rookeries, within which sealing should be absolutely prohibited, to a distance of 50 miles in every direction from the shore.

Henry Poland, p. 571.

Q. What months in the year do you think they ought to be protected?—A. Well, from about the middle of June to the 1st of October. *Frank Morreau, p. 468.*

Pelagic sealing in the North Pacific Ocean should not be permitted for at least six weeks after the females have given birth to their young. *John Morris, p. 341.*

It is very important that if the fur-seal is to be preserved it must be protected from indiscriminate slaughter in the open sea, or it will soon be exhausted. I would suggest that either schooners should not be allowed to approach within a radius of 50 miles of the breeding grounds, or else they should not be allowed to enter the sea until the female has had proper time to give birth to her young, and to give it nurse until such time as the young seal is able to exist without it, say the 1st day of August. This is the general opinion of prominent owners of schooners who have given an unprejudiced opinion upon that subject. *Morris Moss, p. 342.*

I think that all sealing should be stopped for a number of years, so that the seal can become plenty again, for the white man has almost exterminated the seal. *Nashtou, p. 298.*

They ought to be prohibited from killing seals in the water for a few years at least, or there will not be enough left to make them worth hunting. *Wm. Parker, p. 345.*

The practice of taking seals in the water before they have given birth to their young is destructive to seal life, wasteful, and should be prohibited. *Chas. Peterson, p. 346.*

From my knowledge and from conversation with other sealers, I believe that for the proper preservation of seal life, sealing should be absolutely prohibited every two or three years. *W. Roberts, p. 242.*

I think pelagic sealing in the sea should be prohibited until such a time as the pup may have grown to the age at which it may be able to live without nurse from its mother. *Wm. Short, p. 348.*

Q. In your opinion is it absolutely necessary to protect the cows in the Bering Sea to prevent the herd from being exterminated? If so, for what months in the year?—A. It is absolutely necessary to protect the cows, in order to prevent seals being exterminated, from the 1st of July up to the 1st of November. *Gustave Sundvall, p. 481.*

I do not consider it right to kill the mother seal before she has given birth to her young pup; I do not think they should be killed until six weeks after giving birth to their young. *John A. Swain, p. 351.*

I think that all pelagic hunting should be stopped for a few years to give the seal a chance to increase. *W. Thomas, p. 485.*

I think sealing should be prohibited for four or five years in order to give them a chance to multiply and become as plentiful as they formerly were.

P. S. Weittenhiller, p. 274.

I think there should be a closed season established some part of the year, so they could have a rest, as the constant hunting of them in the open waters is soon going to destroy them.

Alf Yohansen, p. 369.

Unless all sealing is stopped for a number of years the seal, like the sea-otter, will soon become extinct.

Walter Young, p. 303.

PROHIBITION OF USE OF FIREARMS.

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I think they will all be killed off if they keep hunting them with guns.

Peter Brown, p. 378.

If so much shooting at seals is not stopped they will soon be all gone.

Circus-Jim, p. 387.

It is my opinion that spears should be used in hunting seals, and if they are to be kept from extermination the shotgun should be discarded.

Christ Clausen, p. 320.

If they keep on killing them with the guns there will be none left in a little while.

Alfred Irving, p. 387.

If hunted with guns they will all soon be destroyed.

Selwisk Johnson, p. 389.

And I think after awhile they will all soon be destroyed if they keep on hunting them with guns.

Moses, p. 310.

PROHIBITION OF PELAGIC SEALING IN BERING SEA.

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In my opinion open-sea sealing is very destructive, and unless prohibited will result in the extermination of the species at no very distant day. I also believe that it would be utterly useless to protect the rookeries on the seal islands and not protect the seal herd while in Bering Sea.

C. A. Abbey, p. 187.

Q. Do you think of anything else that is of value in regard to this seal question that I have not asked you, and if anything you would like to say, you can give your opinion about it?—A. Well, I think it is proper for the interest of sealing in those waters that the Government should take immediate action in the protection of seals in the Bering Sea.

Geo. Ball, p. 483.

If they do not protect them in the Bering Sea it will be but a few years before they will be exterminated.

Wm. Bendt, p. 404.

From my knowledge of the business I am certain that the fur-seal will soon be exterminated if it is not protected in the Bering Sea. We might kill some in the Pacific Ocean, if there did not too many vessels go out to hunt them. *Wm. Bendt, p. 405.*

If pelagic sealing is stopped in Bering Sea for a number of years seal would become plentiful again; if not stopped they will soon be exterminated. *Martin Benson, p. 406.*

Q. In your opinion is it absolutely necessary to protect the cows in Bering Sea to prevent the herd from being exterminated?—A. It is absolutely necessary in my opinion. *Danl. Claussen, p. 412.*

Q. Do you think it would be better that the Bering Sea should be entirely closed?—A. I think it would be better.

Q. In your opinion, is it absolutely necessary to protect the cows in the Bering Sea to prevent the herd from being exterminated?—A. Certainly. *Luther T. Franklin, p. 426.*

I am of the opinion that in order to save the seal from extermination all pelagic hunting in Bering Sea should be prohibited. *Thos. Frazer, p. 365.*

Q. Do you think it is necessary to protect the seal in the Bering Sea?—A. Certainly I do.

Q. In the North Pacific?—A. In the North Pacific I will not say; but in the Bering Sea I think it is absolutely necessary. *Chas. H. Hagman, p. 436.*

Q. Do you think it is absolutely necessary to protect the cows in the Bering Sea?—A. You ought to protect them, certainly; in order to keep the thing going they ought to be protected. *H. Harmsen, p. 443.*

Q. Is it necessary to protect the cows in the Pacific?—A. They kill the biggest half in the Pacific, so that they ought to be protected there.

I think that the only way the seal can ever become plenty again is to stop all pelagic sealing in Bering Sea. *E. Hofstad, p. 260.*

Q. Do you think it absolutely necessary to protect the cows in the Bering Sea?—A. Yes, sir.

Q. What do you think about protecting them in the North Pacific, providing you wanted to increase the seals and save them from extermination?—I don't know what to say about that. The North Pacific is pretty big. *Frank Johnson, p. 441.*

I think if sealing in Bering Sea was stopped and the indiscriminate killing of cows was stopped, seal would become plentiful along the coast. *Philip Kashevaroff, p. 262.*

Q. Is it your opinion, if sealing continues unrestricted, that they will soon be exterminated?—A. Yes, sir; they will get less and less, and will soon be exterminated if all sealing is not stopped in the Bering Sea and

on the islands.

I think that all pelagic seal-hunting in Bering Sea should be stopped, or the seal will soon become exterminated.

Jas. McKeen, p. 267.

Q. Do you think it is absolutely necessary to protect the cows in the Bering Sea to keep them from being exterminated?—A. I do.

Alex. McLean, p. 438.

Q. Is it often necessary to protect them in the North Pacific?—A. That is a question that should be international.

Q. What I want to get at is, is it your idea that in order to protect and keep up this supply of young seals that it is necessary not only to protect them in the Bering Sea but to protect the cows as they are in the North Pacific, nearing the ground, or as they are coming out?—A. Yes, sir; in the way it is here, the Pacific Ocean is a large ocean. The seals are spread all over, and it would be impossible to go to work and exterminate them from these waters to decrease them as long as they keep them out of the Bering Sea. That is where the body of the seals get into. For 40 miles within the passage they can not handle the seals at all, because you don't see them. They are traveling too much. You may see a herd once in a while, but very rarely.

Q. Whereabouts in the North Pacific do you find them the most numerous?—A. You can start from San Francisco, and you carry them all the way up from the time you leave here until you get up to those passes; all the way up 150 miles to 30 miles in the shore. In some places you come in closer than that, according to the point of land that you come into.

Q. In your view of the ease they should be protected in the Bering Sea all the season?—A. Yes, sir; I think it would be advisable to protect them in the Bering Sea

Alex. McLean, p. 439.

altogether.

Q. You are an old sealer; perhaps you know some things that I don't. If there is anything you think of that is interesting I should like to know it.—A. No, sir; I should like to give my opinion as far as it is right, and beyond that I would not do it. I am interested in sealing, and want to protect the seals. I wish to say that I would like to see the seal islands protected from raids, and also the Bering Sea.

Daniel McLean, p. 444.

Q. Do you think it is absolutely necessary to protect the cows in the Bering Sea?—A. Yes, sir.

Q. It is also necessary to protect them in the Pacific?—A. The Pacific is a large ocean, and they do not go in large bands. They go singly and in pairs, so that there is not a chance to kill so many of them in the ocean. In the Bering Sea they are in bands, and they go onto the islands and are concentrated in a small place. * * *

Q. Do you know of anything else that would be interesting in regard to the question?—A. I think the seals ought to be protected. I think the custom-house should not clear any ships either in the British Colonies or the United States for sealing in the Bering Sea; that is, if they

want to protect them. I would like to see the islands protected from raids, and the Bering Sea also.

Q. Do you think that the Bering Sea should be entirely closed?—A. Certainly. *Frank Moreau, p. 469.*

I think that pelagic seal hunting in Bering Sea should be stopped. *Wm. H. Smith, p. 478.*

Q. In order to preserve the seals, do you think it absolutely necessary to stop all killing in the waters of the Bering Sea?—A. Yes, sir; I think it absolutely necessary, in order to protect the seals, to stop all killing of cows in the Bering Sea. *Gustave Sundvall, p. 481.*

The preservation of the rookeries requires the suppression of pelagic sealing, at least in the Bering Sea, and in the immediate vicinity of the passes. *Z. L. Tanner, p. 375.*

I think if pelagic hunting was stopped in Bering Sea that seal would become plentiful along the coast of southern Alaska, and we Indians could again catch plenty of them with a spear, which is a much better way to capture seal than by shooting them with shotguns, for none are lost when struck with a spear. *M. Thlkahdeynahkee, p. 270.*

I think if pelagic hunting is not stopped in Bering Sea the seal will soon become exterminated. *Charlie Tlaksatan, p. 270.*

Think that all pelagic seal-hunting should be stopped in Bering Sea in order to keep the seal from being exterminated. *Rudolph Walton, p. 273.*

Under Russian rule there were many years of faulty management, and at one time much danger of extermination of seal life at these islands, but in time the company came to regard seal life with so good an eye to preservation and perpetuation that their rules and regulations in regard to these points are still in force on the islands; but, while they permitted free navigation throughout Bering Sea, they sternly prohibited any interference with seal life in the waters thereof, and so the United States Government will be forced to do if it would preserve and perpetuate its present splendid property. *C. A. Williams, p. 545.*

PROHIBITION OF PELAGIC SEALING WITHIN A ZONE.

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A zone of 30, 40, or 50 miles about the islands in which sealing is prohibited would be of little or no protection, as the females, during the breeding season, after their pups are born, wander at intervals over Bering Sea in search of food. But to suppose an impossibility, even if such a zone could protect seal life, it would be impossible, on account of the atmosphere being so constantly foggy and misty, to prevent vessels from crossing an imaginary line drawn at such a distance from and about the Pribilof Islands. *Chas. Bryant, p. 9.*

I am of the opinion that the Pribilof seal herd should be protected both in Bering Sea and the North Pacific Ocean.

A. P. Loud, p. 39.

If an imaginary line were drawn about the islands, 30 or 40 miles distant therefrom, within which sealing would be prohibited, this would be little protection to seal life, for all the poachers whom I interviewed acknowledged that they could get more seals in the water near the fishing banks, 30, 40, or more miles from the islands, than in the immediate vicinity thereof, and the hunters on the schooners always complained if they got much nearer than 40 miles of the islands. I am certain that even if sealing were prohibited entirely upon the islands the seal herd would in a short time be exterminated by pelagic sealing, if permitted, because the females—that is, the producers—are the seals principally killed by open-sea sealing.

A zone of 30 miles about the seal islands within which seal hunting would be prohibited would be valueless in preserv-

H. H. McIntyre, p. 46.

ing seal life; first, because Bering Sea during the time the seals are there is almost constantly enveloped in fogs and mist, under cover of which marauding vessels could run in very near to the islands without being observed, if allowed to come as near as 30 miles thereto; second, because for over 30 miles from said islands great quantities of seals are found coming from and going to the islands from the feeding grounds; and further, because seals found in the waters for 60 to 100 miles about said islands are much bolder and easy of approach than in the open sea, through the proximity of their island home.

Therefore, in my judgment such a 30-mile zone would be of practically no use as a means of protection to seal life, because of the impossibility to enforce such a law, and because of its inefficiency if enforced.

If it is the fact, as has been stated, that the herds have now been diminished since the killing of female seals upon

Geo. Rice, p. 574.

the sea began, as to which deponent has no knowledge, he should say that it would at least be reasonable to prohibit the killing of seals absolutely within the area which may be described as the feeding grounds around the island.

Pelagic sealing should be suppressed as far as practicable. A protected zone around the islands, extending 100 miles

Z. L. Tanner, p. 375.

from them would not be effective, even if the limits were respected.

FOGS IN BERING SEA.

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(See also "Prohibition of Pelagic Sealing within a Zone.")

During the summer months fogs envelop the seal islands or cover the sea a short distance from them a considerable

W. C. Allis, p. 99.

portion of the time. Sealing vessels are enabled thereby to carry on their work without detection at almost any point, and could and would, I believe, cross any boundaryline that might be drawn about the islands, and catch seals at will inside of it. I do not think sealing can be, with safety to the rookeries, permitted in any part of the sea. If the sealers are given an inch they will take an ell, and destroy all.

There is almost constant cloudiness and dense fog, and it is difficult for a vessel to know her own location within reasonable limits after having cruised about for a short time. The margin of uncertainty would be nearly as wide as the zone itself. Often the navigator receives his first information regarding the nearness to the islands by hearing the cries of the seals on the rookeries, which he can not see. Under such circumstances few arrests would be made of trespassing vessels that could not make a plausible plea in self defense. In most cases it would be difficult to prove that the sealer was actually within the forbidden area.

Report of American Commissioners, p. 376 of The Case.

During the summer months fogs envelop the sea islands or cover the sea a short distance from them a considerable portion of the time.

Harry N. Clark, p. 160.

Sealing vessels are enabled thereby to carry on their work without detection at almost any point, and could and would, I believe, cross any boundary line that might be drawn about the islands and catch seals at will inside of it.

I do not think sealing can be permitted, with safety to the rookeries, in any part of the sea. If the sealers are given an inch they will take an ell, and destroy them.

I have also no doubt as to the final result of this indiscriminate sealing. The dense fogs which prevail over Bering Sea in summer render the drawing of an imaginary line of protection about the seal islands absolutely futile and inoperative for such purpose; and unless full protection is afforded the animals, their extermination must follow as surely as in the case of the seals at the South Shetland Islands or the buffalo on the plains of North America.

H. W. McIntyre, p. 138.

It is my opinion that should pelagic sealing be prohibited in a zone 30, 40, or 50 miles about the Pribilof Islands it would be utterly useless as a protection to seal life, because female seals go much farther than that in search of food, and because fogs are so prevalent about those islands that it would be impossible to enforce any such prohibition.

L. G. Shepard, p. 189.

As seals are found in large numbers over 100 miles from the islands during the entire summer, a zone 30 or 40 miles about the islands in which open-sea sealing were prevented, if such could be done, would be of comparatively little protection to seal life.

Geo. Wardman, p. 179.

THE SEAL-SKIN INDUSTRY.

IN THE PAST.

SOURCES OF SUPPLY.

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Second. That the seal-skins which have been sold in London from time to time since deponent first began business have been obtained from sources and were known in the markets as— *Alfred Fraser, p. 554.*

(A) The South Sea skins, being the skins of seals principally caught on the South Shetland Islands, South Georgia Islands, and Sandwich Land. That many years ago large numbers of seals were caught upon these islands, but in consequence of the fact that no restrictions were imposed on the killing of said seals they were practically exterminated and no seal-skins appeared in the market from those localities for many years. That about twenty years ago these islands were again visited and for five seasons a considerable catch was made, amounting during the whole five seasons to about 30,000 or 40,000 skins. Among the skins found in this catch were those of the oldest males and the smallest pups, thus showing, in the judgment of deponent, that every seal of every kind was killed that could be reached. That in consequence thereof the rookeries on these islands were then completely exhausted. Once or twice thereafter they were visited without result, no seals being found, and about five years ago they were again revisited and only 36 skins were obtained. Deponent is informed that all the South Sea skins were obtained by killing seals upon the islands above mentioned, and that it is obviously everywhere much easier to kill seals upon the land than in the water; and in the judgment of the deponent the seals of the above-mentioned islands were thus entirely exterminated because of the entire absence of any protection or of any restriction of any kind whatever upon the number, age, or sex of seals killed, and not merely as deponent understands has been claimed by some authorities, because they were killed on land instead of in the open sea, which, moreover, in that locality, deponent is informed, is practically impossible by reason of the roughness of the sea and weather.

(B) A considerable number of seal-skins were formerly obtained upon the Falkland Islands; how many deponent is not able to state.

(C) That a certain number of seals were also caught at Cape Horn, and that more or less are still taken in that vicinity, though the whole number has been very greatly reduced.

Deponent says, from his general knowledge of the business inspection of the catalogues of sales of C. M. Lampson & Co. and from the information derived from his predecessors in the firm, the chief of whom was the late Sir Curtis Lampson, who founded the house about sixty years ago, that

fur-seal skins were formerly obtained in large numbers in the South Pacific and Atlantic seas upon the San Juan Fernandez and Falkland Islands, upon Sandwich Island, South Shetland Island, Desolation island, Goughs Island, and Kerguelen and Masafuero Islands, and at Cape Horn.

There were also in former years a considerable number of skins obtained from Russian possessions in the North Pacific Ocean through the medium of a Russian company, as hereinafter stated.

The history of the Southern Atlantic and Pacific seal business shows that at the localities above enumerated, and principally on South Shetland and the Kerguelen Islands, there must have been very large numbers of seals. * * *

And deponent has been informed and understands that in consequence of the indiscriminate and universal killing of seals in the localities above mentioned, where no restrictions of any kind were then or are imposed upon the killing of seals at any time, without regard to age or sex, the seal rookeries in those localities were after a few years of such killing practically exhausted.

That about twenty years ago the South Shetland Islands were again visited, and for two or three years there were obtained from these islands a considerable number of skins, amounting in the aggregate to perhaps 50,000 skins. At the end of three years' catch of skins it was reported that the rookeries were again exhausted and the islands were not again visited for several years, not until five years ago, when deponent understands that a vessel was sent to those islands by the firm of C. A. Williams & Co., of New London, United States of America, and that that vessel was only able to obtain 39 skins.

The time during which deponent has been in the business the skins from all of the above-mentioned localities have been practically infinitesimal in number.

The following statistics are gathered from the journals of early navigators, and such commercial records as are now available are submitted:

Kerguelen Land.—An island in southern Indian Ocean discovered about 1772. The shores of this island were teeming with fur-seal when it first became known. Between the date of its discovery and the year 1800 over 1,200,000 seal skins were taken by the British vessels from the island, and seal life thereon was exterminated.

Crozetts.—The Crozett Islands, in same ocean and not far distant, were also visited and hunted over and the seal life there was totally exhausted.

Masafuero.—An island in southern Pacific Ocean, latitude 38° 48' S., longitude 80° 34' W., came next in order of discovery, and from its shores in a few years were gathered and shipped 1,200,000 fur-seal skins.

Delano, chapter 17, page 306, says of Masafuero: "When the Americans came to this place in 1797 and began to make a business of killing seals there is no doubt but there were 2,000,000 or 3,000,000 of them on the island. I have made an estimate of more than 3,000,000 that have been carried to Canton from thence in the space of seven years. I have carried more than 100,000 myself and have been at the place when there were the people of fourteen ships or vessels on the island at one time killing seals."

South Shetlands.—In 1821-1823 the South Shetland Islands, a group nearly south from Cape Horn, became known to the seal hunters, and

in two years over 320,000 seals were killed and their skins shipped from these islands.

South Georgia.—Later still seal were found on the island of South Georgia, South Atlantic Ocean, and from this locality was obtained over 1,000,000 of fur seal, leaving the beaches bare of seal life.

Cape Horn.—From the coast of South America and about Cape Horn many thousands of fur seal have been taken, and of the life once so prolific there nothing is now left save such remnants of former herds as shelter on rocks and inlets almost inaccessible to the most daring hunter.

This record shows the nearly complete destruction of these valuable animals in southern seas. Properly protected, Kerguelen Land, Masafnero, the Shetlands, and South Georgia might have been hives of industry, producing vast wealth, training schools for hardy seamen, and furnishing employment for tens of thousands in the world's markets where skins are dressed, prepared, and distributed. But the localities were no man's land, and no man cared for them or their products save as through destruction they could be transmitted into a passing profit.

In 1872, fifty years after the slaughter at the Shetland Islands, the localities before mentioned were all revisited by another generation of hunters, and in the sixteen years that have elapsed they have searched every beach and gleaned from every rock known to their predecessors, and found a few secluded and inhospitable places before unknown, and the net result of all their toil and daring for the years scarcely amounts to 45,000 skins, and now not even a remnant remains save on the rocks off the pitch of Cape Horn. The last vessel at South Shetlands this year of 1888, after hunting all the group, found only 35 skins, and the last at Kerguelen Land only 61, including pups. So in wretched waste and wanton destruction have gone out forever from the southern seas a race of animals useful to man and a possible industry connected with them, and it is plain that without the aid of law to guide and control no other result could have been expected or attained. *C. A. Williams, p. 542.*

MARKETS.

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Deponent says that what may be described as the fur-skin business has been built up—that is, the product, the fur-seal, skins, have been made an article of fashion and commerce—and the sales of such skins largely increased, and the methods of dressing and dyeing the same have been perfected almost entirely through the influence and joint endeavors of the Alaska Commercial Company, the North American Commercial Company, the Russian Seal Skin Company, deponent's own firm, and the firm of C. W. Martin & Sons, and their predecessors in the city of London. *Sir G. C. Lampson, p. 565.*

That the first seal-skins of which deponent has any knowledge arriving in London market were consigned by a Russian company to the firm of J. M. Oppenheim & Co., the business of which firm, in far so as it related to the dressing and dyeing of fur-seal skins, was subsequently taken over by the firm of Martin & Teichmann. That the fur-seal skin *Walter E. Martin, p. 567.*

business was greatly developed about the year 1870 through the efforts of C. M. Lampson & Co.; that about that time the firm of J. M. Oppenheim & Co. found great difficulties in getting the skins properly unhaired, dressed, and dyed, which difficulties culminated in a strike of their operatives about the year 1873, the result of which was that the firm of Martin & Teichmann took over that portion of the business of Messrs. Oppenheim & Co. connected with the dressing and dyeing of fur-seal skins as aforesaid, and began a system of education of their own operatives, and that from that time until within a year ago the business of dressing and dyeing skins has been practically controlled by the firms of Martin & Teichmann & Co. and C. W. Martin & Sons, and has become an established and important industry, in which a large amount of capital is invested and a large number of persons employed.

The principal market for the skins of such Southern Pacific and Atlantic seals was, as deponent is informed, found in the Chinese ports.
Emil Teichmann, p. 577.

The history of the seal-skin fishery coming from the Northern Pacific regions is briefly as follows:

Emil Teichmann, p. 579. In the early part of the century a Russian company was formed which obtained from the Russian Government a right to kill seals, both upon the Commander and Pribilof islands and in and around the Bering Sea. Up to the year 1853 about 20,000 skins were annually received in London from the company in the parchment state. By the parchment state I mean skins which were dried with the top or water hair left on. They were not, in consequence of this method of preservation by drying, in a condition to be unhaired, and they were, after having been dressed in London, largely returned to the Russian markets.

In the year 1853 a trial shipment of salted skins was made to J. M. Oppenheim & Co., in London, in pursuance, as deponent is informed, of suggestions theretofore sent out by Messrs. Oppenheim that an attempt should be made to salt the skins, but owing to the defective curing this shipment was a failure. By degrees, however, the curing by means of salting was improved, and in 1858 a contract was made by the Russian American Company to ship to Messrs. J. M. Oppenheim & Co. an annual supply of from 10,000 to 12,000 skins delivered in London at 10s. 10d. a skin. The quantity was increased in 1864 to 20,000 skins. This contract remained in force until the Alaska Territory became the property of the United States. In addition to the salted skins covered by the contract last referred to, Messrs. Oppenheim & Co. also received during these years about 10,000 skins from the Russian American Company per annum, which were dried in the old-fashioned way and not salted.

Deponent says that what may be termed the fur-seal business has largely been built up by the efforts of the Alaska Commercial Company, the North American Commercial Company, and the firm of C. M. Lamson & Co.
Emil Teichmann, p. 582.

That it depends to a considerable extent upon making seal-skins an article of fashion and of trade.

The skins from the localities mentioned were marketed mainly in China, as exchange for silks, teas, etc.; a portion went to Europe, and in France and England were manufactured into caps, gloves, and other small articles, being simply unhaired and dressed. The commercial value in China was about \$5 per skin for first class, and something less in Europe. But Delano, chapter 11, page 197, says: "Having agreed for a freight, Captain Stuart ordered his ship to Canton; he sold his cargo of seals, 38,000, for only \$16,000, so reduced was the price of this article." There was no regular market established for them, and, under the conditions of their taking, there could be none; for at one time there would be a vast oversupply, while at another skins would be unattainable, and always the assurance that however plentiful might be the supply for a season the end was not distant, for utter destruction was the rule of capture, and no reproduction was possible. Capital could not undertake to develop such a trade, for the end was in sight from the beginning. *C. A. Williams, p. 542.*

Until about 1853 the skins shipped by the Russian American Company from these islands, over which they had absolute control, up till the time of the cession to the United States, went forward in the parchment (or dried) state at the rate of about 20,000 per annum. About 1853 a small trial shipment of salted skins was shipped in the hands of Messrs. J. M. Oppenheim & Co., London, who had for many years previous been the leading firm who unhaired and dressed fur-seals from Lobos Islands, Cape of Good Hope, etc. The first experience with salted Alaskas proved a failure, the skins not having been properly cured; by degrees, however, the skins came forward in better condition, and in the year 1858 Messrs. Oppenheim contracted with the Russian American Company for an annual supply of from 10,000 to 12,000 salted fur-seals at 10s. 10d. per skin, delivered in London. This quantity was increased about the year 1864 to 20,000 per annum, the contract remaining in force until the time when the territory was handed over to the United States Government. In addition to the salted fur-seals, Messrs. Oppenheim received annually from the Russian American Company about 10,000 parchment fur-seal at a price materially below that of the salted skins. Messrs. Oppenheim shipped to the United States the first dressed and dyed Alaska seals about 1860, but their shipments only amounted to a few thousand skins per annum until 1865. From that year until 1872, when this firm was liquidated, the quantity shipped by them increased from 2,000 to 3,000 per annum to probably 10,000 skins. *C. A. Williams, p. 545.*

Such was the state of the trade in fur-seal skins at the time of the lease by the United States Government to the Alaska Commercial Company. Skins were of low value; there were no regular open sales; the dressing and dyeing were badly done, and the net result of sales was insufficient to meet the rental, tax, and charges imposed by the Government on the lessees at the date of the issue of the lease. The company undertook the building up of this business by the introduction of method and system on the islands in the place of the loose and careless management, by careful selection of skins and great attention to the curing of them, and by guaranteeing regular supply as to quantity and quality to the London market. They were most ably seconded in their efforts by the London house of C. M. Lampson & Co., to whom the skins were consigned, and to the critical acquaintance with value

of furs, to the sound judgment and unsurpassed business ability of the then head of that house, and to the confidence assured to the buyers by his name in connection with the sales the success of the undertaking in London is largely due. Up to the time that this company was formed the dressing of seal was efficiently done only by the firm of Oppenheim & Co., but on their liquidation there was great danger that the business would fall into weak hands and be so badly done as to render the manufactured fur-seal unpopular. Realizing this fact, Messrs. Lampson & Co. stepped in and, by liberal inducements, led Messrs. Martin & Teichmann to carry on the Alaska factory.

After a series of difficulties, such as strikes and trouble with the work people, who were determined that no more or better work should be done than of old, this factory has gradually succeeded, by continual improvement, in rendering the dressing and dyeing, formerly a most uncertain undertaking, a thoroughly reliable process. These efforts on the island and in London combined largely account for the measure of success the company has attained. In addition, however, large expenditure has been necessary in all the European centers to keep the article before the public and in their favor.

IN THE PRESENT.

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Deponent is informed that practically all the seal-skins in the world are sold in London, and the number runs up in the year to between 100,000 and 200,000, averaging considerably over 150,000 a year.

H. S. Bevington, p.
552.

Several years ago they were plentiful off Cape Horn, and about twenty-five years back I saw some near Cape Good Hope, and also off New Zealand; but whether they are to be found there now I do not know.

William Brennan, p.
359.

The way in which the business of the firm of C. M. Lampson & Co. is conducted at the present time in respect to fur-seal skins is briefly as follows:

Sir G. C. Lampson, p.
564.

The firm receives consignments of fur-seal skins from the North American Commercial Company, which, as deponent is informed, has a lease from the United States Government of the right to kill fur-seals on the Pribilof Islands in the Bering Sea, from the Russian Seal Skin Company, which, as deponent is informed, have a lease from the Russian Government of a right to kill fur-seals on the Komondorski and Roben Islands, and large consignments of fur-seal skins are also made to deponent's firm by the firm of Hermann Liebes & Co., of San Francisco, U. S. A. These three mentioned firms or companies are the principal consignees of seal skins to the deponent's firm. The consignments when received are duly catalogued and sales at public auction of these skins and of those of any other consignments which there may be are held in the months of January, March, and October. That at such sales there are present in person or by representative all the leading dealers doing business in the city of London and all the other markets in the world. The total number of buyers does not average more than fifty, and a list of all the buyers is hereto annexed

and marked A. The major part of the skins purchased are, however, purchased by a comparatively small number of firms. Deponent's own firm as the agents of dealers in the United States and Canada are also among the principal buyers.

That down to within one or two years ago the skins so purchased by the principal buyers, or at least a great majority of them, were after such purchase consigned to the firm of C. W. Martin & Sons, by whom they were dressed, and the most of the skins also dyed by them, and having been so dressed and dyed, they are then sent to the dealers and manufacturers of fur clothing in various parts of the world.

Sir G. C. Lampson, p. 566.

BUYERS OF FUR-SEAL SKINS.

LONDON.

Allhausen & Co.	International Fur Store.
Apfel Brothers.	Marshall, W., & Co.
Bevington & Morris.	Martin, C. W., & Sons.
Blatspiel, Stamp & Heacock.	Meyers, J. & H.
Borras, R., & Sons.	Nicholay, J. A. & Son.
Cramer, J. H., & Co.	Phillips, Politzer & Co.
Dixon & Co., H.	Poland, P. R., & Son.
Ensor, Weber & Co.	Poland, Geo., & Son.
Eysoldt & Co.	Russ, C.
Friedebury, H.	Smith, Geo., & Sons.
Felsenstein Bros.	Sugden, C. A., & Co.
Hand, J.	Slater & Co.
Hirschell & Meyer.	Ullmann, Jos.
Hoffman & Thaw.	Vyse Sons & Co.
Howell, J., & Co.	Wotherspoon, D. & J.
Ince, T. H.	

PARIS.

Grebert, E., & Grison.	Révillon Frères.
Handler, N., & Fils.	Révillon, S.
Hertz, E., & Co.	

LEIPZIG.

Bromberg, M., & Co.	Gandig & Blum.
Dornfeldt, G.	Königewerther, H. M.

Third. That the business is carried on in the city of London, briefly, as follows: Messrs. C. M. Lampson & Co., and during the last two years one or two other firms, *Walter E. Martin, p. 568.* advertised the annual sales of fur-seal skins, of which very far the largest number are advertised and sold by C. M. Lampson & Co. That at such sales merchants and furriers from all over the world are present or represented, and make their purchases of fur-seal skins for the ensuing season. After the sales the skins purchased are delivered by the purchasers to my firm and others for dressing and dyeing. Most of the seal-skins dressed by my firm are likewise intrusted to us to be dyed, but some of the merchants, notably Révillon Frères, of Paris, have the skins which have been dressed for them by us dyed in France, and this is true of one or two other firms, although Révillon Frères are the principal firm who so do. This makes the number of furs dressed by us larger than the number dyed.

The skins are consigned by the persons who take them in the fishing grounds to various firms, the principal of which are C. M. Lampson & Co., and Culverwell & Brooks, by whom the skins are catalogued and advertised for the sales, which are held in October, January, or March in each year by Goad, Rigg & Co., as brokers for C. M. Lampson & Co., and by Culverwell & Brooks on their own account.

These sales are attended by merchants and buyers from all over the world, who are present either personally or by proxy, and having made their purchases at such sales, the skins are transferred by them to the dressers and dyers.

The laws of trade take these skins to London for market. Two public sales are held each year, usually in March and November. At these sales attend buyers from Russia, Germany, France, England, and America. The company sells the entire stock on hand at each occasion, and has no further connection with the skins. Its rule is to meet the market, and it buys no skins for account, nor has it any interest in the dressing and dyeing. That this work is done so largely in London is the choice of the buyers.

SOURCES OF SUPPLY.

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That since deponent has been in business, skins coming upon the London market have been principally divided into three classes, known as the Alaska catch, the Copper catch, and the Northwest catch. Small supplies have also been received from the Southern Sea, the Lobos Islands, Falkland Islands, and Cape Horn; but the skins arriving from these last mentioned localities make no figure in the market. That what is known as the Alaska catch, consist of skins of seals which are killed upon the Pribilof Islands in the Bering Sea, and the Copper catch of skins, which are killed upon the Copper and Bering Islands, in Russian waters.

That the Northwest skins consist of skins taken from animals which are caught in the open Pacific Ocean, off the coast of British Columbia or in the Bering Sea.

That at the present time, and for many years last past, the skins coming to the market and which are known to commerce, have come from the following sources:
1. And by far the most important are the Northern Pacific skins, which are known to the trade under the following titles:

The "Alaska" catch, which are the skins of seals caught on the Pribilof Islands, situated in Bering Sea. For many years past the whole of the skins caught upon these islands have been sold by deponent's firm, and a statement of the number of skins so sold in each year is appended hereto and marked Exhibit A, showing the aggregate of such skins sold from the year 1870 to the year 1891, inclusive, as 1,877,977.

The "Copper" catch, being the skins of seals caught upon what are known as the Commander Islands, being the islands known as Copper

and Bering Islands. All the skins so caught have been sold by deponent's firm in the city of London, and the total number of such "Copper" catch from the year 1872 to 1892 appears upon the statement which is hereto annexed and marked Exhibit B, showing the total so sold during such years of 768,096 skins.

The "Northwest" catch, being the skins of seals caught in the open sea either of the Pacific Ocean or of the Bering Sea. These skins were originally caught exclusively by the Indians and by residents of the colony of Victoria and along the coast of the British Possessions. A statement of the total number of the catch from the year 1868 to 1884, inclusive, is appended hereto and marked Exhibit C, showing a total of 153,348. That statement is divided into three heads: First, the salted "Northwest" coast skins; second, the dried "Northwest" coast skins, both of which were mainly sold through deponent's firm in London; and third, salted "Northwest" coast skins, dressed and dyed in London, but not sold there. It will be noticed that in the years 1871 and 1872 an unusually large proportion of dried skins appear to have been marketed. Those skins were purchased in this year from the Russian American Company, which was the lessee of the Russian Government on the Pribilof Islands prior to the cession of Russian America to the United States. Those skins had been accumulated by the Russian Company and sold when the Americans took possession. For the years 1871 and 1872, therefore, the surplus skins over the average for the other years should be rejected in a computation of the general average of seals killed during the years from 1868 to 1884, inclusive.

From the year 1885 to the year 1891 the number of skins included in the "Northwest" catch enormously increased, and a statement of such skins is hereto annexed and marked Exhibit D, showing a total of 331,962, and is divided, like the statement marked Exhibit C, into three heads: The salted Northwest coast skins, the dry Northwest coast skins, and the salted skins dressed and dyed in London, but not sold there. The majority of the first two classes were, as in the previous case sold by deponent's firm. The great majority of these skins appearing in the last-mentioned statement are the skins caught by vessels sent out from the Canadian provinces; many also by vessels sent out from San Francisco, Port Townsend, and Seattle; and a few from vessels sent out from Yokohama; the majority, however, are supposed to have been caught by vessels sent out from British harbors. A large number of the skins included in Exhibit D have been consigned to C. M. Lampson and Co., by the firm of Herman Liebes & Co., of San Francisco. In estimating the total number of the "Northwest" catch it should also be mentioned that something like 30,000 skins belonging to that catch have been dressed and dyed in the United States, which have not gone to London at all.

Besides the "Alaska," "Copper," and "Northwest" skins there are also a certain number of skins arriving in London, known as the Lobos Island skins, although the same are not handled by the firm of C. M. Lampson & Co.; but the total number of which, from the year 1872 to the year 1891, inclusive, is, as appears from the catalogues of sales, 247,777. The Lobos Island skins are those of seals killed on the Lobos Island, belonging to the Republic of Uruguay; and deponent is informed and believes that there is no open-sea sealing in the vicinity of such island, and that the animals are protected on the island as they are on the Russian and Pribilof Islands, by prohibition from the killing of females and limiting the number of males killed in each year. A statement of the seals killed on Lobos Island is hereto annexed and

marked Exhibit E, from which it appears that there is a regular annual supply obtained from that source, which shows no diminution.

There are also a certain number of skins sold in London, obtained from rookeries at or near the Cape of Good Hope, the exact number of which deponent is not able to state, but which, he is informed, shows a steady yield.

The statements marked A, B, C, D, and E, herennto appended, have been carefully prepared by me personally, and the figures therein stated have been compiled by me from the several sale catalogues of C. M. Lampson & Co., and others from my private books, which I had kept during all the years covered by the statements; and I am sure that those statements are substantially accurate and truly state the respective numbers of the skins caught and sold which they purport to state:

Alfred Fraser, p. 558.

EXHIBIT A.

Salted Alaska fur-seal sold in London.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1870	0,965	1879	100,036	1888	100,000
1871	100,896	1880	100,161	1889	100,000
1872	96,283	1881	99,921	1890	20,994
1873	101,218	1882	100,100	.....	*4,158
1874	90,150	1883	75,914	1891	13,473
1875	99,634	1884	99,887	Total.....	1,877,977
1876	90,267	1885	99,719		
1877	75,410	1886	99,910		
1878	99,911	1887	90,040		

*Food skins.

Alfred Fraser, p. 559.

EXHIBIT B.

Salted Copper Island fur-seal sold in London.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1872	7,182	1880	38,885	1888	46,333
1873	21,614	1881	45,209	1889	47,416
1874	30,349	1882	39,111	1890	93,486
1875	34,479	1883	30,500	1891	17,025
1876	33,298	1884	26,675	1892	30,678
1877	25,380	1885	48,929	Total.....	768,096
1878	19,000	1886	41,732		
1879	28,211	1887	54,584		

EXHIBIT C.

Salted Northwest Coast fur-seal skins sold in London prior to pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1872	1,029	1877 .....	.....	1882	11,727
1873	4,049	1878	264	1883	2,319
1874 .....	.....	1879	12,212	1884	9,242
1875	1,640	1880	8,930	Total.....	64,366
1876	2,042	1881	0,097		

Salted Northwest Coast fur-seal skins, dressed and dyed in London (but not sold there), taken prior to pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1872	699	1877	772	1882	11,159
1873	40	1878	2,434	1883	6,385
1874	122	1879	2,397	1884	10,115
1875	578	1880	4,562	Total.....	46,215
1876	1,062	1881	5,890		

Dry Northwest Coast fur-seal skins sold in London prior to pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1868	2,141	1874	2,772	1880	686
1869	1,671	1875	1,351	1881	321
1870	684	1876	993	1882	390
1871	12,495	1877	1,173	1883	785
1872	14,584	1878	912	Total.....	42,767
1873	891	1879	918		

Of the skins sold in 1871 and 1872 a very large proportion were the accumulation of the Russian American Company and sold by them after the purchase of Alaska by the United States.

RECAPITULATION.

	Year.	Skins.
Salted skins sold in London	1872-1884	64,300
Salted skins dressed and dyed in London.....	1872-1884	46,215
Dry skins sold in London.....	1868-1884	42,767
Grand total.....		153,348

EXHIBIT D.

Alfred Fraser, p. 560.

Dry Northwest Coast fur-seal skins sold in London after commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1885	1,520	1888.....	1,252	1891.....	1,083
1886	979	1889.....	228	Total.....	8,604
1887	2,843	1890.....	609		

Salted Northwest Coast fur-seal skins dressed and dried in London (but not sold there), taken after the commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1885	16,667	1887.....	3,589	1889.....	2,017
1886	15,087	1888.....	1,030	Total	39,290

In addition to above it is estimated that from 25,000 to 30,000 skins have been dressed and dyed in the United States.

Salted Northwest Coast fur-seal skins sold in London after commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1885	2, 078	1889	39, 563	1892*	28, 298
1886	17, 909	1890	38, 315	Total	254, 068
1887	36, 907	1891	54, 180		
1888	36, 818				

* To date.

RECAPITULATION.

	Year.	Skins.
Dry skins sold in London	1885-1891	8, 604
Salted skins, dressed and dyed in London, but not sold there	1885-1889	39, 290
Salted skins, dressed and dyed in the United States, estimated	1885-1889	30, 000
Salted skins sold in London	1885-1892	254, 068
Grand total		331, 962

EXHIBIT E.

Salted Lobos Island fur-seal sold in London.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1873	6, 956	1881	13, 569	1889	8, 755
1874	8, 509	1882	13, 200	1890	18, 541
1875	8, 179	1883	12, 861	1891	15, 834
1876	11, 353	1884	16, 258	1892*	4, 800
1877	13, 066	1885	19, 953	Total	247, 777
1878	12, 301	1886	15, 667		
1879	12, 295	1887	11, 068		
1880	14, 865	1888	20, 747		

* To date.

That the history of the fur-seal skin business and the sources of its supply have been fully and correctly described by deponent's partner, Mr. Emil Teichmann, and deponent was present at the time when the deposition of Mr. Teichmann was dictated to the shorthand writer. The principal present sources of the supply of the seal-skin market are what are known as the Alaska catch, the Copper Islands catch, and what is known as the Northwest catch. As stated by Mr. Teichmann, the skins of these several catches are readily distinguished from each other, and separate sets of forms or patterns are used by deponent's firm in sorting and sizing the skins of the three catches. These differences are emphasized by the fact that the skins of the three catches are of different values and produce in the market different prices.

The skins of the Alaska and Copper Island catch are almost exclusively skins of male seals and the skins of the Northwest capture are in like manner largely the skins of female seals. What is now called the Northwest catch was for many years known as the Victoria catch, and prior to 1884 the skins of this catch came to the London market consigned largely by the firm of Hermann, Liebes & Co. to the deponent's firm and averaged for many years about 10,000 or 12,000 skins per year. In 1884 the skins of this catch began to increase largely in

Sir G. E. Lampson, p.
565.

number, and the numbers which since that year have arrived in the London market are stated with substantial accuracy upon the lists annexed to the affidavits of my partners, Messrs. Fraser & Teichmann.

The skins which have come to the London market within the last few years have been principally what are known as the Alaska catch, the Copper Island catch and the Northwest catch. Small supplies are also obtained from the Lobos Islands, Cape Horn, and Australasia, but the skins got from last three mentioned localities play an inconsiderable part in the business. That the great majority of the skins coming into the market are known as the Alaska, the Copper Island, and the Northwest skins. *Walter E. Martin, p. 569.*

That from about the year 1879 down to the present time the principal fur-seal skins coming to the London market have been what are known as the Alaska catch, being the skins of fur-seals killed upon the Pribilof Islands, in the Bering Sea, the Copper Islands catch being the skins of fur-seals killed upon the Kommandorski and Robben Islands of Russia, and what are known as the Northwest catch. Until within two or three years ago a very considerable number of skins also arrived on the London market, amounting, perhaps, to several thousand annually, which were known as Japanese skins. *Henry Poland, p. 571.*

That later on, from the year 1878, we have noticed in the London market seal skins called Victoria or Northwest coast skins, the quantity of which is variable, but which has continually increased until last year, when the total quantity was held at 80,000 skins. *Léon Révillon, p. 589.*

That we have often heard, and from different sources, that these last-named skins [Victoria or Northwest coast skins] are in the majority the skins of the female seal. The thinness of the hair upon the flanks seems to confirm this assertion, although it is impossible for us to test the absolute truth of this statement for ourselves, for when the seals have been dressed the signs of the mammals disappear. At any rate the employment of these skins is much less advantageous to our business because there is a great predominance of small skins, which are evidently those of young seals which are not killed by the companies which have the concessions for the Alaska and Copper seal-skins. Moreover, these Victoria or Northwest coast seal-skins are riddled with shot, which very materially depreciates their value, while the seals of both the Alaska and Copper companies are killed by a blow of a club upon the head, which does not at all impair the quality of the skin as regards its ultimate uses.

That the fact that the annual production of Victoria or Northwest coast skins has increased in proportion as the Alaska skins has diminished seems to indicate that if fewer Northwest coast animals had been killed the quantity of Alaska skins would not have diminished.

That for many years last past the skins arriving in the market have been principally what are known as, first, the Alaska skins, which are the skins of seals killed upon the Pribilof Islands in the Bering Sea; second, what are called the Copper Island skins, which are the skins of seals killed on the Russian islands in the Bering Sea; and third, what *Geo. Rice, p. 572.*

are called the Northwest catch, which are the skins of seals killed in the north part of the Pacific Ocean, or in the Bering Sea. A large proportion of the Northwest catch of skins have passed through deponent's hands for some years last past, and last year he handled nearly the whole of the Northwest catch.

Besides those three last-mentioned classes, the Alaska, Copper, and Northwest, a certain number of seal-skins also come to the London market from southern waters, notably Lobos Island and Cape Horn, but the skins from these localities are relatively much less important than the skins of the Northern Pacific regions.

That for many years last past the fur-seal skins coming on the London market have been known as, first, the Alaska *Wm. C. B. Stamp, p. 575.* catch, which are the skins of seal killed upon the Pribilof Islands situated in the Bering Sea; second, the Copper Island catch, which are the skins of seals killed on the Komondorski and Robben Islands in the Russian waters. The Robben Island skins were formerly separated from the Komondorski Islands and were of inferior quality, and it is only within the last eight or ten years that the Robben Island skins, which are inconsiderable in number, have been presumably mingled with the skins of seals caught on the Copper Islands and included in the term "Copper catch;" third, the Northwest catch, which are skins of seals killed in the open Pacific or Bering Sea.

There are known to the trade in purchasing raw fur skins from the North Pacific and Bering Sea three different varieties—the Copper Island skins, the West Coast skins, which are those shot and and caught by hunters in the water, and, third, those taken from the Pribilof Islands. The most valuable are those taken from Pribilof Islands, and the next are the Copper Island skins, and those of least value are what is known as the West Coast catch. The latter, while of the same nature and from the same herd as those on the Pribilof Islands, are of less value because many of them are caught out of season. The skins are stogy and are full of holes from being shot. A number of them are cows in milk, and the fur on the belly is very much less valuable on that account.

Third. That for many years last past the skins of fur-seals actually coming into the markets of the world have been *Emil Teichmann, p. 578.* derived from the following sources:

I. *The Lobos Islands skins*, which are the skins of seals caught upon the islands of that name, situated off the River Platte and belonging to the Republic of Uruguay. These skins are consigned by the persons having the contract to take them with the Republic of Uruguay to Boulcher, Mortimer & Co., of London, by whom they are sold through Goad, Rigg & Co., and catalogues of the last-mentioned firm are published and have been inspected by deponent from time to time as published. The total number of skins derived from this source, as appears from an inspection of such catalogues, are, during the years 1873 and 1892 inclusive, set forth accurately in the paper which is annexed hereto and marked *Exhibit A*.

II. *Cape Horn skins*.—Prior to the year 1876 a small number of skins are supposed to have been obtained from this locality. They are not classed in our books or catalogues, nor in the books of any other per-

sons or firms, so that they can not now, from examining the books and catalogues, be readily identified or separated from skins coming from other southern localities, but from the year 1876 down to the present time they have been so classified, and a large number have been sold by deponent's firm. A statement of the skins obtained from Cape Horn is hereto appended and marked *Exhibit B*. The number of skins derived from this locality, as appears by that statement, fluctuated very largely in number, and I am informed that the reason for such fluctuation is that the seals from which the skins are obtained are killed mostly upon land, and that the weather in that part of the world is so severe that it is at times impossible to effect a landing upon or near the rookeries. So far as deponent knows, there is no protection of any kind for seals at Cape Horn other than that which is afforded by the difficulty of landing in order to kill the seals, in consequence of the heavy weather.

III. *Cape of Good Hope*.—From this locality a small but steady number of skins have been obtained during many years last past. These skins are not consigned to deponent's firm, but to other persons in London whose catalogues are published, and have been examined from time to time by deponent; and deponent is informed and believes from such examination of catalogues that the number of skins obtained from this source have been for the last few years about 5,000 per annum.

Deponent understands that the seals from which these skins are obtained are likewise killed mostly upon land, and he is also informed that some regulations for the protection of seal life at the Cape of Good Hope by regulating the killing of seal in that colony of the Cape of Good Hope have been established by the government of the said colony, but what those regulations are, if any such exist, deponent is not in a position to state.

In addition to the supplies from the above-mentioned sources, from 1,000 to 2,000 skins are obtained annually in Australasia, which includes New Zealand.

IV. The principal sources of supply for the market at the present time, and for many years last past, are the following.

Emil Teichmann, p. 578.

(a) What are known as the Alaska catch, which are the skins of male seals, killed upon St. Paul and St. Georges Islands in the Bering Sea.

(b) The Copper catch which come from the seals killed upon the Russian islands of Copper and Bering, called the Commander Islands, which are located in the Russian part of Bering Sea, and also the Robben Island, in the Okhotsk Sea, all which are also the skins of male seals.

(c) The Northwest catch. These are the skins of seals caught in the open North Pacific and Bering Sea.

Deponent further says that, commercially speaking, the seal skins now coming upon the markets of the world are obtained principally from three catches, known as the Copper, the Alaska, and the Northwest catches. The first includes the skins taken by the Russian Sealskin Company from the Islands of Copper and Bering, known as the Commander Islands; also from Robben Island in the Okhotsk Sea. The Robben Island skins differ from those of the Commander Islands. The Alaska catch includes the seals killed upon the Pribilof Islands by the lessees of the United States, and the Northwest catch includes the seals

C. A. Williams, p. 537.

caught in the open Pacific and Bering Sea, exclusively, by what are known as poaching vessels, and are distinguished from the Alaska catch by the fact that they are all pierced by bullet, snekshot, or spear, and are almost all females.

The seal life of to-day available for commercial purposes is centered in three localities.

(1) The Lobos Islands, situated in the mouth of the river La Plata, owned and controlled by the Uruguay Republic
C. A. Williams, p. 542. and by that Government leased to private parties for the sum of \$6,000 per annum and some stipulated charges. The annual product in skins is about 12,000.

The skins are of rather inferior quality. Insufficient restrictions are placed upon the lessees in regard to the number of skins permitted to be taken annually, consequently there is some waste of life; nevertheless, the measure of protection allowed has insured the preservation of the "rookery," and will continue so to do.

(2) Kommandorski Couplet, which consists of the islands of Copper and Bering, near the coast of Kamelhatka, in that portion of Bering Sea pertaining to Russia. These islands yield about 40,000 skins per annum of good quality, and are guarded by carefully restrictive rules as to the killing of seal, analogous to the statutes of the United States relative to the same subject.

The right to take seals upon them is leased by the Russian Government to an association of American citizens, who also hold the lease of the islands belonging to the United States, and are thus enabled to control and direct the business in fur-seal skins for the common advantage and benefit of all parties in interest. These islands can hardly be said to have been "worked" at all for salted seal skins prior to the cession of Alaska by Russia to the United States, and the United States Government now profits by the industry to the extent of the duty of 20 per cent collected on the "dressed skins" returned to this country from the London market. From 1873 to 1881, inclusive, this return has been 121,275 skins.

(3) The Pribilof group consists of the islands of St. Paul and St. George, and is a Government reservation in that part of Bering Sea ceded to the United States by Russia, together with and a part of Alaska. So exhaustive an account of these islands and their seal life has been given by Mr. H. W. Elliott, special agent of the Treasury Department in 1874, and since intimately connected with the Smithsonian Institution, which account has been made a part of Tenth Census Report, that it would be intrusive here to attempt to supplement aught, and therefore only generalizations based on said report, and such statements of life and procedure on the islands to-day are presented as may be pertinent in this connection.

These islands are places of annual resort for the largest herd of fur seal the world has ever known, and the only one of great importance now existing. After most careful examination, Mr. Elliott estimated their numbers at over 4,500,000. After a thorough study of the influences which act for or against the increase or diminution of the life of this vast body, taking into account the killing of 100,000 annually for their skins, Mr. Elliott says: "I have no hesitation in saying quite confidently that under the present rules and regulations governing the sealing interest on these islands, the increase or the diminution of the life will amount to nothing; that the seals will continue for all time

about the same number and 'condition." It goes without saying that if new influences for destruction are brought in, seal life would be diminished in proportion to the effectiveness of said influences.

EXHIBIT B.

[From C. M. Lampson & Co. to C. A. Williams, August 22, 1889.]

LONDON, 64 QUEEN STREET, E. C.,

August 22, 1888.

DEAR SIR: We beg to acknowledge receipt of your favor of the 10th instant, inclosing draft of a paper to be submitted to Congress on merchant marine and fisheries.

We have read the paper with a great deal of interest and consider that it places the matter in a thoroughly impartial way before its readers. It has been so carefully prepared and goes into all details so fully that we can add but little to it. There are, however, one or two points to which we beg to draw your attention, and which you will find marked in red ink on the paper.

When speaking of the supply of fur-seal skins we would suggest mentioning the following localities:

(1) *Cape of Good Hope*.—From some islands off this cape, under the protection of the Cape Government, a yearly supply of from 5,000 to 8,000 skins is derived. All these skins come to the London market, part of them being sold at public auction, the remainder being dressed and dyed for account of the owners.

(2) *Japan*.—The supply from this source has varied very much of late years, amounting sometimes to 15,000 skins a year, at others to only 5,000. Last year, we understand, the Japanese Government passed stringent laws prohibiting the killing and importation of seals, with the view of protecting seal life and encouraging rookeries, and the consequence has been that this year very few skins have come forward.

(3) *Vancouver's Island*.—For many years past, indeed long before the formation of the Alaska Company, regular supplies of fur-seals in the salted and parchment state, have come to the London market, killed mostly off Cape Flattery. The quantity, we should say, has averaged at least 10,000 per annum. This catch takes place in the months of March and April, and we believe that the animals from which these skins are derived are the females of the Alaska seals, just the same as those caught in the Bering Sea.

Had this quantity been materially increased we feel sure that the breeding on the Pribilof Islands would have suffered before now; but fortunately the catch must necessarily be a limited one, owing to the stormy time of the year at which it is made and the dangerous coast, where the seals only for a short time are found. It must, however, be evident that if these animals are followed into the Bering Sea and hunted down in a calm sea in the quietest months of the year a practically unlimited quantity of females might be taken, and, as you say, it would be only a few years till the Alaska seal was a thing of the past.

Yours, very truly,

C. M. LAMPSON & Co.

C. A. WILLIAMS, Esq.,
New London.

I hereby append to and make a part of this affidavit a table, marked A, giving the number of seals killed each day on the island of St. Paul during the years 1889 and 1890 up to the 20th day of July.

Chas. J. Goff, p. 113.

I also append to and make a part of this affidavit a table, marked B, showing the killing of seals on the island of St. Paul up to July 20, for the years 1870 to 1890, inclusive, compiled from the records kept at the Government house on St. Paul Island.

A.—Table showing the killing of fur-seals on St. Paul Island up to July 20, 1890, by the North American Commercial Company.

VILLAGE KILLING GROUND.

Date.	Number killed.	Date.	Number killed.
1889.		1890.	
June 5.....	201	June 6.....	116
10.....	120	11.....	574
12.....	947	13.....	132
14.....	762	16.....	317
15.....	340	17.....	167
17.....	895	18.....	274
18.....	1,161	20.....	339
19.....	1,561	21.....	292
20.....	253	23.....	521
22.....	1,353	24.....	426
24.....	2,578	25.....	266
25.....	979	26.....	117
26.....	1,314	27.....	396
27.....	311	28.....	206
28.....	1,349	30.....	209
29.....	1,038		
Total.....	15,162	Total.....	4,402
July 1.....	1,023	July 1.....	246
2.....	834	2.....	242
3.....	1,841	3.....	183
4.....	1,716	4.....	494
5.....	1,255	5.....	526
6.....	1,302	7.....	411
8.....	814	8.....	261
9.....	1,314	9.....	163
10.....	654	10.....	378
12.....	2,004	12.....	683
13.....	1,006	13.....	211
15.....	3,085	14.....	104
16.....	1,911	15.....	315
17.....	1,931	17.....	372
18.....	2,046	18.....	236
19.....	2,017	19.....	556
20.....	1,913	20.....	780
Total.....	26,666	Total.....	6,111

A.—Table showing the killing of fur-seals on St. Paul Island, etc.—Continued.

NORTHEAST POINT KILLING GROUND.

Date.	Number killed.	Date.	Number killed.
1889.		1890.	
June 17.....	1,054	June 17.....	16
18.....	1,270	18.....	78
19.....	494	20.....	438
21.....	1,205	21.....	96
24.....	754	23.....	179
25.....	1,407	24.....	205
26.....	441	25.....	166
27.....	844	27.....	230
28.....	479	28.....	79
29.....	335	30.....	98
July 1.....	1,200	July 1.....	131
2.....	968	2.....	96
4.....	1,559	3.....	180
5.....	1,524	4.....	321
6.....	376	5.....	74
8.....	914	7.....	336
9.....	641	8.....	379
10.....	800	9.....	271
13.....	793	10.....	112
15.....	1,838	13.....	658
16.....	1,156	15.....	245
17.....	948	16.....	312
18.....	1,282	17.....	485
19.....	834	18.....	405
20.....	243	19.....	446
Total	15,076	20.....	556
		Total	5,007

RECAPITULATION.

Total number of fur-seal killed by lessees on St. Paul Island from June 1 to July 20.

1889.....	65,180
1890.....	17,105

B.—Table showing the beginning of each sealing season on the islands of St. Paul and St. George from 1870 to 1890, inclusive, and the number of fur-seals accepted by the lessees up to July 20 of each year.

Year.	St. Paul.		St. George.		Total skins accepted.
	Season began—	Skins accepted.	Season began—	Skins accepted.	
1870.....	June 1	29,788	June 4	12,604	42,392
1871.....	1	65,499	3	21,563	87,062
1872.....	3	68,035	4	17,362	85,397
1873.....	3	88,058	1	8,554	96,612
1875.....	1	83,890	1	10,000	93,890
1876.....	3	69,367	1	10,000	79,367
1877.....	4	58,732	1	15,000	73,732
1878.....	8	78,570	10	16,709	95,279
1879.....	2	80,572	3	20,560	101,131
1880.....	1	80,000	3	20,000	100,000
1881.....	6	80,000	9	20,000	100,000
1882.....	2	80,000	6	20,000	100,000
1883.....	4	60,101	4	11,123	71,224
1884.....	3	83,092	4	11,152	94,244
1885.....	3	70,451	1	15,000	85,451
1886.....	4	72,120	8	13,335	85,455
1887.....	1	77,389	9	13,381	90,770
1888.....	1	73,808	6	11,187	84,995
1889.....	4	68,485	4	11,138	79,623
1890.....	6	16,893	2	4,112	20,945

Max Heilbronner, p. 117.

SEAL-SKIN RECORD OF ST. PAUL ISLAND, ALASKA, 1871 TO 1893.

Showing the dates, the rookeries from which the seals were driven, and the number killed from each drove, except that the catch at Northeast Point is entered weekly, without designating the particular part of that rookery from which the animals were driven.

1871.

May 15.	Reef and Tolstoy	175	Aug. 24.	Zoltoy	122
24.	Reef	243	29.	Zoltoy	53
June 1.	Tolstoy	578	Sept. 4.	Ketovy	189
2.	Reef	220	11.	Zoltoy	158
5.	Reef	904	13.	Northeast Point	52
6.	English Bay	1,680	18.	Zoltoy	105
9.	Southwest Bay	969	26.	Zoltoy	77
10.	Southwest Bay	1,730	Oct. 2.	Lukanan	133
13.	Reef	861	9.	Halfway Point	1,117
15.	English Bay and Tol- stoy	1,130	10.	Ketovy	1,300
18.	Reef	1,387	11.	English Bay and Tol- stoy	1,300
20.	Southwest Bay	1,069	13.	English Bay and Tol- stoy	1,326
20.	Southwest Bay	901	14.	Reef	825
22.	Lukanan	1,283	16.	Lukanan	631
23.	Tolstoy	495	17.	Reef	683
24.	Reef	791	19.	English Bay and Tol- stoy	1,157
24.	Northeast Point	2,653	12.	English Bay and Tol- stoy	2,454
27.	English Bay	259	17.	Northeast Point	1,490
28.	English Bay and Tol- stoy	2,128	18.	Northeast Point	732
29.	Reef	1,006	19.	Northeast Point	1,436
30.	Tolstoy	274	21.	English Bay and Tol- stoy	3,412
July 1.	Tolstoy	914	25.	English Bay and Tol- stoy	2,181
3.	Northeast Point	2,038	27.	Reef	712
5.	Reef and Lukanan	808	27.	Ketovy	1,420
6.	Reef and Lukanan	2,815	28.	Reef	676
7.	Reef	1,187	28.	Northeast Point	3,032
8.	Reef	751	28.	English Bay	2,987
17.	Zoltoy	1,029	Nov. 6.	Reef	718
21.	Lukanan and Tolstoy ..	1,922	16.	English Bay	501
22.	Northeast Point	3,352	Dec. 19.	Reef	644
22.	Ketovy	778	30.	English Bay	486
24.	Zoltoy	1,172			
26.	Lukanan	1,788			
28.	Northeast Point	3,836			
28.	Tolstoy	1,38			
31.	Lukanan	650			
Aug. 11.	Zoltoy	205			
18.	Zoltoy	150			

77,620

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1872.

May 14. Reef.....	227	July 13. English Bay.....	2,319
24. Reef.....	455	15. Zoltoy.....	1,133
June 1. Reef.....	759	16. Halfway Point.....	1,659
3. Tolstoy.....	278	18. English Bay.....	2,343
5. Reef.....	293	19. Northeast Point.....	4,204
10. Tolstoy.....	209	19. Lukanan.....	836
11. Southwest Bay.....	1,607	22. Zoltoy.....	628
12. Reef.....	662	25. Zoltoy.....	1,369
13. English Bay.....	1,730	25. English Bay.....	2,070
14. Tolstoy and Lukanan...	1,048	29. Zoltoy.....	10
14. Northeast Point.....	4,003	Ang. 6. Zoltoy.....	119
15. Reef.....	702	14. Zoltoy.....	87
17. Zoltoy.....	388	16. Northeast Point.....	20
19. English Bay.....	2,826	19. Zoltoy.....	112
20. Reef and Zoltoy.....	1,166	29. Lukanan.....	151
21. Lukanan.....	1,702	Sept. 6. Lukanan.....	55
21. Northeast Point.....	5,014	13. Lukanan.....	29
22. Lukanan.....	524	20. Lukanan.....	11
24. Reef and Zoltoy.....	910	Oct. 10. Lukanan.....	10
27. English Bay.....	4,615	22. Lukanan.....	17
28. Tolstoy.....	1,315	28. English Bay.....	1,255
28. Lukanan.....	318	29. English Bay and Reef..	664
28. Northeast Point.....	5,109	31. English Bay and Reef..	11
29. Lukanan.....	798	31. Northeast Point.....	1,680
July 2. Zoltoy.....	1,839	Nov. 29. Tolstoy.....	395
5. English Bay.....	3,259	Dec. 5. Reef.....	66
5. Northeast Point.....	5,117	6. Tolstoy.....	391
6. Zoltoy.....	1,640		
9. English Bay.....	3,135		
12. Lukanan and Zoltoy....	2,060		75,352

1873.

May 23. Southwest Bay.....	96	July 7. Zoltoy and Lukanan....	1,502
23. Reef.....	188	9. English Bay.....	2,485
June 3. Reef and Tolstoy.....	796	9. Northeast Point.....	1,614
4. Southwest Bay.....	700	14. Tolstoy.....	917
6. Reef and Tolstoy.....	916	15. Zoltoy.....	1,228
11. English and Southwest Bays.....	2,445	16. Lukanan.....	1,540
12. Reef and Zoltoy.....	1,656	17. English Bay.....	1,553
14. English Bay.....	2,016	18. Zoltoy.....	925
14. Northeast Point.....	3,242	19. Lukanan and Zoltoy....	1,045
17. Tolstoy.....	1,758	19. Northeast Point.....	5,696
17. Reef and Zoltoy.....	455	21. English Bay.....	752
17. Lukanan.....	663	22. Lukanan and Zoltoy....	1,926
20. Southwest Bay.....	3,910	23. Lukanan and Zoltoy....	446
21. Zoltoy.....	650	23. Northeast Point.....	2,725
23. Tolstoy.....	1,787	Ang. 4. Zoltoy.....	173
23. Northeast Point.....	3,410	13. Zoltoy.....	144
25. English Bay.....	3,137	19. Zoltoy.....	65
27. Reef and Lukanan.....	2,191	25. Lukanan.....	72
28. Zoltoy.....	1,142	Sept. 1. Tolstoy.....	47
28. Northeast Point.....	5,020	9. Tolstoy.....	25
July 1. Tolstoy.....	1,838	Oct. 25. Tolstoy.....	11
2. Zoltoy and Lukanan.....	2,322	Dec. 9. Tolstoy.....	135
3. English Bay.....	1,927	20. Tolstoy.....	355
4. Zoltoy.....	2,194	30. Tolstoy.....	242
5. Zoltoy.....	693		
5. Northeast Point.....	4,662		75,437

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1874.

April 27. Northeast Point.....	14	June 30. Tolstoy and Zoltoy	1, 212
May 6. Southeast Bay.....	407	July 1. English Bay	2, 208
19. Reef.....	336	3. Zoltoy and Lukanan..	2, 615
25. Reef.....	303	3. Tolstoy.....	1, 537
30. Reef.....	217	4. Zoltoy and Lukanan..	536
June 3. English and Southwest		4. Northeast Point.....	3, 014
Bays	2, 391	6. Tolstoy.....	1, 364
3. Reef.....	538	8. English Bay.....	2, 702
4. English Bay and Tol-		9. Zoltoy	1, 987
stoy	556	9. Lukanan and Tolstoy.	1, 580
6. Northeast Point.....	4, 062	10. Zoltoy	432
8. Reef and Zoltoy.....	638	10. Northeast Point.....	3, 367
9. English and Southwest		13. Tolstoy and Lukanan..	1, 664
Bays	1, 897	14. English Bay	2, 169
10. Tolstoy.....	634	15. Zoltoy	468
11. Reef.....	540	16. Lukanan	1, 094
13. English and Southwest		16. Zoltoy	668
Bays	1, 982	17. Lukanan	527
13. Tolstoy.....	620	17. Northeast Point	4, 004
13. Northeast Point	4, 724	23. Zoltoy	127
15. Reef and Zoltoy.....	889	28. Zoltoy	165
17. English Bay and Tol-		Aug. 5. Zoltoy	110
stoy	2, 689	10. Zoltoy	104
17. Zoltoy	474	17. Zoltoy	124
18. Southwest Bay	1, 665	24. Zoltoy	116
19. Southwest Bay	1, 750	Sept. 7. Zoltoy	91
20. Tolstoy and Lukanan..	2, 563	16. Zoltoy	108
20. Zoltoy	470	25. Zoltoy	117
20. Northeast Point.....	7, 212	Oct. 1. Zoltoy	44
23. Zoltoy and Lukanan..	3, 977	19. Reef.....	118
25. English Bay.....	2, 688	29. Reef.....	196
25. English Bay.....	580	Dec. 17. Reef.....	1, 474
26. Reef and Zoltoy.....	1, 913		
27. Lukanan	1, 321		
27. Northeast Point	8, 129		
			92, 221

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1875.

Jan.	3.	Northeast Point	25	June	26.	Southwest Bay	4,036
Feb.	10.	Northeast Point	9		26.	Northeast Point	7,323
	16.	Northeast Point	6		28.	Reef and Zoltoy	1,526
Mar.	6.	Northeast Point	16		30.	English Bay	3,925
May	6.	Southwest Bay	178	July	1.	Lukanan and Zoltoy	2,534
	6.	Southwest Bay	311		3.	Northeast Point	5,020
	10.	Northeast Point	9		6.	Zoltoy	1,248
	14.	Northeast Point	20		8.	English Bay	3,365
	18.	Reef	143		9.	Tolstoy	2,097
	24.	Reef	656		10.	Ketovy	1,125
	31.	Reef	492		10.	Northeast Point	5,935
June	1.	Tolstoy	204		13.	Zoltoy	1,565
	2.	Southwest Bay	1,198		14.	Tolstoy	1,810
	5.	Zoltoy and Tolstoy	692		14.	Ketovy	746
	7.	Zoltoy, Tolstoy, and Reef	710		15.	English Bay	2,700
	8.	Southwest and English Bay	1,560		16.	Zoltoy	1,205
	10.	Southwest and English Bay	1,456		17.	Northeast Point	7,439
	12.	Reef and Zoltoy	631		17.	Northeast Point	27
	12.	Northeast Point	4,052	Aug.	17.	Zoltoy	637
	14.	Tolstoy	739		28.	Zoltoy	159
	15.	Halfway Point	2,115		4.	Zoltoy	235
	16.	Reef and Tolstoy	707		14.	Ketovy	191
	16.	Lukanan	452		22.	Zoltoy	159
	18.	Southwest and English Bays	3,300		2.	Zoltoy	101
	19.	Zoltoy	1,363		11.	Zoltoy	78
	19.	Northeast Point	5,252		22.	Zoltoy	41
	21.	Tolstoy	1,830		30.	Zoltoy	63
	22.	Zoltoy	1,149	Oct.	12.	Zoltoy	55
	23.	English Bay	3,007	Nov.	5.	Reef	155
	24.	Lukanan	262		18.	Tolstoy	1,985
					27.	Southwest Bay	9
							90,036

1876.

Jan.	12.	Tolstoy and Southwest Bays	709	July	1.	Northeast Point	7,000
May	23.	Southwest Bay	897		1.	Tolstoy and Middle Hill	4,495
	30.	Reef	223		4.	Zoltoy and Ketovy	2,644
June	3.	Southwest Bay	188		5.	Tolstoy	2,846
	6.	Reef	836		7.	English Bay	2,267
	6.	Reef	673		8.	Northeast Point	8,116
	7.	Tolstoy	468		8.	Lukanan	2,126
	8.	Southwest Bay	566		10.	Zoltoy	2,039
	10.	Zoltoy	173		10.	Tolstoy	1,974
	10.	Northeast Point	1,585		21.	Zoltoy	53
	12.	Zoltoy	868		29.	Zoltoy	1,040
	13.	Halfway Point	811	Aug.	2.	Tolstoy	2,139
	14.	Tolstoy	885		2.	Lukanan	1,538
	15.	Zoltoy and Reef	624		10.	Zoltoy	120
	16.	Southwest Bay	2,611		17.	Ketovy	129
	17.	Northeast Point	3,120		23.	Ketovy	207
	19.	Zoltoy	2,942	Sept.	1.	Zoltoy	163
	21.	Tolstoy Hill	3,161		9.	Ketovy	50
	22.	Zoltoy	480		16.	Zoltoy	9
	24.	Northeast Point	6,193	Nov.	24.	Southwest Bay	376
	24.	Southwest Bay	4,503		25.	Southwest Bay	127
	26.	Zoltoy	862	Dec.	14.	Tolstoy	575
	28.	English Bay	3,017				77,900
	29.	Zoltoy	1,442				

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1877.

May 22. Reef	332	June 30. Northeast Point.....	6,449
June 4. Reef	546	July 2. Zoltoy	1,849
5. Southwest and English Bay.....	796	3. Tolstoy and Lukanan ..	1,534
8. Southwest and English Bay.....	1,696	5. English Bay and Middle Hill	2,522
12. Reef and Zoltoy	446	6. Ketovy and Lukanan...	2,275
13. Halfway Point	1,092	7. Northeast Point.....	5,660
14. Southwest and English Bay.....	1,617	7. Zoltoy	1,113
15. Tolstoy and Lukanau..	1,506	9. Zoltoy	495
16. Zoltoy	1,092	10. Tolstoy and Middle Hill	2,086
18. Zoltoy	1,011	10. Northeast Point.....	2,172
19. Tolstoy and Middle Hill	1,458	14. Zoltoy	1,066
20. Southwest Bay	1,631	27. Zoltoy	75
21. Zoltoy and Lukanan ..	1,172	Ang. 6. Zoltoy	142
22. Halfway Point	1,224	11. Zoltoy	168
23. Tolstoy and Middle Hill	1,050	20. Zoltoy	176
23. Northeast Point.....	5,965	30. Zoltoy	108
25. Zoltoy	1,250	Sept. 12. Zoltoy	52
26. Halfway Point	430	Nov. 18. Zoltoy	201
27. Tolstoy and Middle Hill	2,020	27. Southwest Bay.....	1,241
28. Zoltoy and Lukanan ..	1,396	29. Southwest Bay.....	339
29. English Bay	2,166	Dec. 22. Northeast Point.....	20
30. Tolstoy and Middle Hill	1,915		
			61,584

1878.

May 20. Seal Lion Rock	205	June 29. Northeast Point.....	6,375
30. Southwest Bay and Tolstoy	708	July 1. Halfway Point	2,237
June 8. Reef	857	2. Zoltoy and Ketovy	3,903
11. Southwest Bay and Tolstoy	2,407	3. Lukanan.....	791
12. Reef	556	4. Zoltoy and Ketovy	2,010
13. Southwest and English Bays.....	1,098	5. Tolstoy	2,622
14. Tolstoy	887	6. Zoltoy and Ketovy	1,036
15. Ketovy and Zoltoy	1,282	6. Northeast Point	7,231
17. Tolstoy and Middle Hill	1,501	8. Halfway Point	484
18. Southwest and English Bays.....	2,271	8. Lukanan and Ketovy...	885
19. Ketovy, Lukanan, and Zoltoy	992	9. Zoltoy	2,288
20. Tolstoy and Middle Hill	1,731	10. Zoltoy	916
21. Southwest Bay.....	1,457	10. Northeast Point.....	3,322
22. Zoltoy and Lukanan ..	1,309	12. Tolstoy and Middle Hill	3,600
22. Northeast Point.....	5,900	13. Zoltoy	2,101
24. Halfway Point	1,473	16. Tolstoy	1,986
25. Tolstoy and Middle Hill	1,552	17. Zoltoy	2,337
26. Lukanan and Zoltoy ..	1,895	18. Zoltoy	1,549
27. Southwest and English Bays	2,666	18. Lukanan.....	272
28. Ketovy and Zoltoy	1,661	30. Zoltoy	304
29. Tolstoy and Lukanan ..	1,130	Aug. 10. Zoltoy	294
		Nov. 26. Reef and Tolstoy.....	1,128
		28. Reef and Tolstoy.....	815
		Dec. 14. Northeast Point.....	183
			82,152

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1879.

May 20. Southwest and English Bays.....	278	June 28. Lukanan, Ketovy, and Zoltoy	1,206
26. Reef.....	525	28. Northeast Point.....	7,042
June 2. Reef.....	162	30. Tolstoy and Middle Hill.....	2,617
7. English and Southwest Bays	1,627	July 1. English Bay	2,148
9. Reef.....	434	2. Zoltoy and Lukanan	1,885
10. Halfway Point	1,188	3. Tolstoy and Ketovy	1,932
11. Southwest and English Bays	1,462	4. English Bay.....	2,106
12. Tolstoy	498	5. Lukanan and Ketovy...	1,168
14. Southwest Bay and Middle Hill	997	5. Northeast Point.....	9,083
13. Reef, Zoltoy, and Ketovy	730	7. Tolstoy and Middle Hill.....	1,528
16. Halfway Point	522	8. Lukanan, Ketovy, and Zoltoy	1,920
17. Southwest Bay and Middle Hill	1,331	9. Lukanan, Ketovy, and Zoltoy	983
18. Reef, Zoltoy, and Ketovy	914	10. Tolstoy	918
19. Southwest and English Bays	1,110	10. Northeast Point.....	5,599
20. Tolstoy and Middle Hill.....	1,176	14. Zoltoy	2,652
21. Lukanan, Ketovy, and Reef.....	1,053	15. Zoltoy and Ketovy	1,283
21. Northeast Point.....	7,388	16. Tolstoy, Middle Hill, and Lukanan.....	2,282
23. Tolstoy and Middle Hill.....	2,300	25. Zoltoy	434
24. Southwest and English Bays	1,822	29. Zoltoy	429
25. Reef, Zoltoy, and Ketovy	1,995	Aug. 2. Zoltoy	237
26. Tolstoy, Middle Hill, and Zoltoy	1,542	11. Zoltoy	171
27. Halfway Point.....	1,940	28. Zoltoy	3
		Nov. 13. Reef.....	70
		27. Reef	162
		Dec. 6. Reef	845
		15. Reef.....	1,144
		26. Northeast Point.....	62
		Aug. 20. Zoltoy	121
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			81,004

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1880.

May 14.	Southwest Bay.....	206	June 30.	Tolstoy and Middle Hill	2,297
22.	Reef.....	225	July 1.	Tolstoy and Middle Hill.	1,621
29.	Northeast Point.....	19	2.	English Bay.....	2,373
June 1.	Reef.....	216	3.	Northeast Point.....	7,167
8.	Southwest Bay.....	1,496	3.	Zoltoy, Reef, and Ke-	
9.	Reef.....	926	tovy.....	1,386	
11.	Tolstoy and English		5.	Halfway Point.....	789
Bay.....	884		5.	Lukanan and Ketovy...	651
12.	Southwest and English		6.	Zoltoy.....	1,577
Bays.....	762		7.	Tolstoy and Lukanan...	1,654
14.	Halfway Point.....	1,204	8.	Reef, Ketovy, and Zol-	
15.	Reef and Zoltoy.....	763	toy.....	2,218	
16.	Southwest and English		9.	Middle Hill and Luka-	
Bays.....	990		nan.....	1,426	
17.	Reef, Zoltoy, and Ke-		10.	Northeast Point.....	7,073
tovy.....	703		10.	Zoltoy, Ketovy, and	
18.	Tolstoy and English		Lukanan.....	1,221	
Bay.....	1,618		12.	Zoltoy and Ketovy.....	817
19.	Northeast Point.....	5,277	13.	Tolstoy and Middle Hill.	1,763
19.	English Bay and Middle		14.	Reef, Zoltoy, and Luka-	
Hill.....	801		nan.....	2,638	
21.	Halfway Point.....	1,459	15.	Middle Hill and Ketovy.	1,834
22.	Reef, Zoltoy, and Ke-		16.	English Bay.....	2,461
tovy.....	1,035		17.	Zoltoy.....	531
23.	Tolstoy and Middle Hill.	1,701	30.	Zoltoy.....	228
24.	Reef, Zoltoy, and Ke-		31.	Zoltoy.....	218
tovy.....	1,437		Aug. 19.	Zoltoy.....	351
25.	English Bay and Middle		Oct. 25.	English Bay.....	60
Hill.....	2,580		Nov. 29.	English Bay.....	480
26.	Reef, Zoltoy, and Ke-		Dec. 8.	Reef.....	1,126
tovy.....	1,062		9.	Southwest Bay.....	13
26.	Northeast Point.....	6,201	31.	Northeast Point.....	125
28.	Halfway Point.....	1,514			
29.	Zoltoy and Lukanan....	1,743			
					78,923

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1881.

Jan. 1. Tolstoy and Reef.....	919	July 5. Zoltoy and Ketovy.....	1, 129
3. Tolstoy	122	6. English and Southwest	
May 29. Reef	171	Bays	3, 447
June 6. Reef and Zoltoy.....	421	7. Tolstoy and Zoltoy	1, 890
7. English and Southwest		8. Halfway Point	1, 118
Bays	1, 225	8. Northeast Point	6, 371
9. Reef	149	9. English Bay and Middle	
10. Rocky Point.....	474	Hill	2, 630
14. Reef and Zoltoy.....	195	12. Tolstoy, Zoltoy, and	
15. English and Southwest		Lukanan	3, 073
Bays	2, 386	13. English Bay and Middle	
16. Lukanan, Reef, and Zol-		Hill	1, 778
toy	723	14. English Bay.....	1, 471
17. Halfway Point	539	15. Tolstoy, Lukanan, and	
18. Tolstoy and English Bay.	1, 225	Zoltoy	3, 558
20. Zoltoy and Lukanan....	1, 614	16. Lukanan, Ketovy, and	
21. Tolstoy and Middle Hill.	1, 491	Zoltoy	711
22. Tolstoy and English Bay.	2, 058	16. Northeast Point	16
23. Zoltoy	1, 163	18. Tolstoy, Lukanan, and	
24. Halfway Point	638	Zoltoy	2, 449
24. English Bay and Middle		19. English Bay.....	2, 300
Hill	2, 438	20. Tolstoy, Lukanan, and	
25. Middle Hill, Lukanan,		Zoltoy	2, 530
and Zoltoy	1, 275	Aug. 1. Zoltoy	313
25. Northeast Point.....	4, 196	5. Zoltoy	224
27. English Bay and Tol-		16. Zoltoy	247
stoy	1, 252	Nov. 5. Middle Hill	180
28. Southwest and English		16. Middle Hill.....	669
Bays	1, 919	17. Tolstoy	490
29. Zoltoy and Lukanan....	1, 601	21. Middle Hill	461
30. Zoltoy and Lukanan....	3, 000	Dec. 7. Southwest Bay.....	1, 018
July 1. Tolstoy, Middle Hill,		9. Reef	1, 385
and Ketovy	1, 134		
2. Halfway Point	943		
3. Northeast Point	7, 369		
4. English Bay and Middle			
Hill	2, 285		
			82, 386

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1882.

Jan. 12. Sea Lion Rock	77	July 1. Northeast Point	5,830
Feb. 8. Sea Lion Rock	103	3. Southwest Bay	2,520
10. Sea Lion Rock	8	4. English Bay and Middle Hill	2,037
May 22. Tolstoy	134	5. Zoltoy and Ketovy	1,778
22. Northeast Point	54	6. Tolstoy, Middle Hill, and Zoltoy	1,241
30. Reef	146	7. English Bay and Middle Hill	1,373
June 2. Southwest Bay	400	8. Halfway Point	1,977
7. Southwest Bay	847	8. Northeast Point	5,128
8. Reef and Zoltoy	428	10. Zoltoy, Ketovy, and Lukanan	2,055
10. Reef and Zoltoy	488	12. Zoltoy, Ketovy, and Lukanan	1,928
12. Southwest Bay	1,196	13. Southwest Bay	2,700
13. Halfway Point	217	14. English Bay and Middle Hill	2,503
14. Southwest Bay	803	15. Northeast Point	4,037
14. Northeast Point	1,393	15. Zoltoy and Lukanan	1,046
16. Zoltoy and Halfway Point	1,458	17. English Bay and Middle Hill	1,719
17. Southwest Bay and Zoltoy	1,070	17. Northeast Point	874
19. Lukanan, Ketovy, and Reef	986	18. Zoltoy	923
20. Southwest Bay	2,010	19. Zoltoy, Ketovy, and Lukanan	1,276
21. Tolstoy and Middle Hill	652	20. Southwest Bay	724
22. Reef, Zoltoy, and Ketovy	1,457	25. Zoltoy	204
23. Halfway Point	1,230	Aug. 4. Zoltoy	251
24. Tolstoy and Middle Hill	1,083	14. Zoltoy	103
24. Northeast Point	5,987	Nov. 17. Tolstoy and Middle Hill	161
26. Southwest Bay	1,861	30. Tolstoy	803
27. English Bay and Middle Hill	2,654	Dec. 6. Reef	865
28. Reef and Zoltoy	2,293	12. Reef	398
29. Middle Hill and Tolstoy	1,791		
30. Halfway Point	1,497		
July 1. Zoltoy	1,021		77,798

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1883.

Jan. 1. Northeast Point.....	19	July 4. Middle Hill and Tolstoy	1,494
May 20. Southwest Bay.....	227	5. Reef, Zoltoy, and Lukana-	
June 4. Tolstoy and Southwest		nan	2,346
Bay.....	590	6. Middle Hill and Zoltoy.	1,755
6. Halfway Point.....	352	7. Zoltoy and Lukanan....	935
9. Reef and Zoltoy.....	175	9. Northeast Point.....	5,066
11. Southwest Bay.....	209	9. Middle Hill.....	1,161
11. Tolstoy and Middle Hill	196	10. Middle Hill, Tolstoy, and	
12. Reef and Zoltoy.....	351	Zoltoy	1,923
13. Halfway Point.....	252	12. Lukanan and Halfway	
14. Southwest Bay.....	490	Point.....	1,657
15. Tolstoy and Lukanan..	434	13. Southwest Bay.....	2,440
16. Reef and Zoltoy.....	341	14. Middle Hill and Tolstoy	2,126
18. Southwest Bay.....	417	16. Middle Hill and Eug-	
19. Tolstoy, Middle Hill,		lish Bay.....	2,059
and English Bay.....	734	17. Halfway Point and Zol-	
20. Halfway Point and Lu-		toy.....	1,115
kanan.....	904	18. Southwest Bay.....	1,873
21. Reef and Zoltoy.....	955	19. Middle Hill, Lukanau,	
22. Middle Hill and Eng-		and Zoltoy.....	1,782
lish Bay.....	1,401	19. Middle Hill, Lukanan,	
23. Northeast Point.....	3,279	and Zoltoy.....	101
23. Tolstoy and Lukanan..	1,078	Aug. 1. Zoltoy	190
25. English Bay and Middle		10. Zoltoy.....	154
Hill.....	1,428	20. Zoltoy.....	197
26. Zoltoy and Lukanan...	838	Sept. 1. Zoltoy.....	112
27. Southwest and English		12. Zoltoy	53
Bays.....	1,638	Nov. 5. Reef.....	174
28. Tolstoy, Lukanan, and		26. Reef.....	155
Zoltoy	1,607	27. Tolstoy.....	84
29. Middle Hill and Zoltoy	1,515	Dec. 12. Reef.....	402
30. Lukanan and Zoltoy...	1,191	19. Reef.....	421
30. Northeast Point.....	5,012		
July 2. Halfway Point.....	1,699		
3. Southwest Bay.....	2,151		
			59,258

Seal-skin record of St. Paul Island, Alaska, 1871 to 1882, etc.—Continued.

1884.

Jan	2. Reef	161	July	3. Southwest Bay and Zol-	
May	21. Halfway Point and Reef.	187		toy	1,336
	27. Southwest Bay and Reef.	427		4. Middle Hill, Tolstoy, and	
June	3. Reef	317		Lukanan	1,512
	5. Southwest Bay and Tol-			5. Reef, Zoltoy, and Ke-	
	stoy	767		toy	1,249
	9. Halfway Point and Reef.	1,238		5. Northeast Point	5,799
	10. English Bay	426		7. Halfway Point	1,934
	11. Southwest Bay and Half-			8. Reef, Zoltoy, and Ke-	
	way Point	1,356		toy	2,067
	12. Middle Hill and Zoltoy .	864		9. Southwest Bay	1,966
	13. Reef and Zoltoy	771		9. Northeast Point	3,003
	14. Tolstoy and Halfway			10. English Bay and Middle	
	Point	837		Hill	1,915
	16. Southwest Bay	1,421		12. Middle Hill, Lukanan,	
	17. English Bay and Reef ..	1,266		and Zoltoy	3,072
	18. Halfway Point and			14. Halfway Point and Zol-	
	Ketovy	912		toy	2,515
	19. English Bay and Tol-			15. Southwest Bay	2,049
	stoy	486		16. English Bay and Middle	
	20. Southwest Bay	1,786		Hill	1,523
	21. Zoltoy and Reef	1,115		17. Lukanan and Zoltoy ...	1,777
	21. Northeast Point	4,074		18. English Bay and Middle	
	23. Halfway Point and Zol-			Hill	1,866
	toy	2,163		18. Northeast Point	5,089
	24. Lukanan, Reef, and Zol-			19. Middle Hill, Lukanan,	
	toy	1,724		and Zoltoy	2,527
	25. Southwest Bay	1,194		21. English Bay, Zoltoy, and	
	26. English Bay and Middle			Ketovy	1,907
	Hill	2,528	Aug.	1. Zoltoy	229
	27. Zoltoy, Reef, and Ke-			5. Zoltoy	89
	toy	1,827		12. Zoltoy	65
	28. Tolstoy, Middle Hill,			19. Zoltoy	84
	and Lukanan	1,500		26. Zoltoy	57
	28. Northeast Point	5,134	Oct.	30. Zoltoy	53
	30. Halfway Point and Zol-		Nov.	10. Tolstoy	115
	toy	1,662		24. Tolstoy	108
July	1. Tolstoy, Zoltoy, and		Dec.	5. Zoltoy	487
	Lukanan	1,824		24. Reef	489
	2. English Bay and Middle				
	Hill	1,884			
					84,733

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1885.

May	19. Sea Lion Rock.....	127	July	8. Lukanan and Ketovy..	2,548
	21. Sea Lion Rock.....	41		9. Middle Hill.....	1,292
	27. Zoltoy.....	136		10. Halfway Point.....	2,302
June	3. Reef.....	48		10. Northeast Point.....	3,916
	6. Reef.....	73		13. Southwest Bay.....	2,132
	11. Reef and Zoltoy.....	125		14. English Bay and Middle	
	13. Middle Hill and Tolstoy	587		Hill.....	2,692
	15. Halfway Point.....	741		15. Zoltoy.....	2,138
	16. Reef and Lukanan.....	971		16. Halfway Point and	
	17. Southwest Bay.....	1,700		Lukanan.....	2,137
	18. English Bay and Mid-			17. Zoltoy.....	2,201
	dle Hill.....	617		18. Reef and Middle Hill..	1,552
	19. Halfway Point and			18. Northeast Point.....	4,160
	Lukanan.....	1,307		20. Southwest Bay.....	1,590
	20. Reef and Zoltoy.....	986		21. Middle Hill and English	
	22. Zoltoy and Lukanan....	789		Bay.....	2,720
	23. Halfway Point and Zol-			22. Zoltoy, Reef, and Luka-	
	toy.....	1,142		nan.....	2,739
	24. Southwest and English			23. Zoltoy and Middle Hill	1,603
	bays.....	1,733		23. Northeast Point.....	2,620
	25. Lukanan, Reef, and			24. Halfway Point and	
	Zoltoy.....	1,679		Middle Hill.....	2,495
	26. Halfway Point.....	1,372		25. Middle Hill, Lukanan,	
	27. Lukanan, Zoltoy, and			and Zoltoy.....	2,212
	Reef.....	1,328		27. Zoltoy and Ketovy....	983
	27. Northeast Point.....	4,970	Aug.	3. Zoltoy.....	147
	29. Southwest Bay.....	1,602		12. Zoltoy.....	178
	30. English Bay and Middle			21. Zoltoy.....	176
	Hill.....	2,681	Sept.	5. Zoltoy.....	44
July	1. Zoltoy and Lukanan....	1,782	Oct.	26. Zoltoy.....	53
	2. Middle Hill and English		Nov.	9. English Bay and Middle	
	Bay.....	1,456		Hill.....	330
	3. Halfway Point and Zol-			21. Reef.....	144
	toy.....	2,132	Dec.	4. Reef.....	383
	4. Lukanan and Zoltoy....	976		17. Reef.....	701
	4. Northeast Point.....	4,152			
	6. Southwest Bay.....	1,271			
	7. English Bay and Middle				
	Hill.....	2,663			

85,395

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1886.

Jan.	21. Sea Lion Rock	83	July	7. Reef, Zoltoy, and Lu-	
	29. Southwest Bay	49		kanan	1,967
May	17. Southwest Bay and			8. Southwest Bay	1,466
	Reef	300		9. English Bay and Mid-	
	28. Reef	153		dle Hill	1,562
June	4. Reef	561		10. Reef, Zoltoy, and Lu-	
	8. Southwest Bay and			kanan	1,132
	Tolstoy	1,323		10. Northeast Point	4,822
	9. Halfway Point	299		12. Halfway Point	1,044
	10. Reef and Zoltoy	633		13. Southwest Bay and	
	11. Tolstoy	214		West Point	1,442
	14. Lukanan and Reef	427		14. English Bay and Mid-	
	15. Southwest Bay	1,166		dle Hill	1,074
	16. English Bay and Tol-			15. Reef, Zoltoy, and Lu-	
	stoy	850		kanan	1,956
	17. Halfway Point	833		16. Halfway Point	937
	18. Reef and Zoltoy	651		17. Southwest Bay and	
	19. Tolstoy and Middle			West Point	2,055
	Hill	1,064		19. Northeast Point	4,422
	19. Northeast Point	4,655		19. Reef and Zoltoy	2,312
	21. Southwest Bay	1,890		20. English Bay and Mid-	
	22. English Bay and Tol-			dle Hill	3,140
	stoy	1,006		21. Halfway Point	1,475
	23. Halfway Point	1,770		22. Southwest Bay and	
	24. Zoltoy	1,555		West Point	2,015
	25. Reef, English Bay, and			23. Reef, Zoltoy, and Lu-	
	Tolstoy	2,158		kanan	3,147
	26. Northeast Point	4,295		24. English Bay and Middle	
	28. Southwest Bay	1,070		Hill	1,624
	29. English Bay and Zol-			24. Northeast Point	4,186
	toy	1,503		26. Southwest Bay and	
	30. Halfway Point and			Halfway Point	1,988
	Lukanan	490	Aug.	3. Zoltoy	287
July	1. English Bay and Tol-			19. Zoltoy	282
	stoy	1,318	Sept.	6. Zoltoy	100
	2. Southwest Bay	856	Oct.	24. Reef	143
	3. Reef and Zoltoy	1,259	Nov.	23. Reef and Tolstoy	665
	3. Northeast Point	4,544	Dec.	1. Reef	378
	5. English Bay and Tol-			21. Tolstoy	191
	stoy	1,161			
	6. Halfway Point	942			84,890

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1887.

May 25. Reef and Southwest Bay.	275	July 12. English Bay and Lukanan	2,593
June 6. Tolstoy	419	13. Reef, Zoltoy, and Ketovy	3,028
9. Reef	314	14. Halfway Point	1,201
11. Tolstoy	501	15. Tolstoy and Ketovy	1,298
13. Southwest Bay	407	16. Reef and Zoltoy	986
15. Reef and Zoltoy	526	16. Northeast Point	6,324
16. Halfway Point	750	17. West Point	617
17. Tolstoy and English Bay	765	18. Southwest Bay	2,105
20. Southwest Bay	523	19. English Bay and Tolstoy	2,037
20. Reef and Zoltoy	1,641	20. Zoltoy and Lukanan	3,294
22. English Bay and Lukanan	1,004	21. Halfway Point and Lagoon	1,397
23. Halfway Point	1,314	22. English Bay and Tolstoy	1,876
24. Reef and Zoltoy	1,165	22. Northeast Point	5,565
25. Northeast Point	4,891	23. Zoltoy and Southwest Bay	2,226
25. English Bay and Tolstoy	1,961	24. Middle Hill	232
27. Southwest Bay and West Point	1,180	Aug. 1. Zoltoy	164
28. Zoltoy and Lukanan	2,964	8. Zoltoy	113
29. Tolstoy and Middle Hill	1,895	16. Reef and Lukanan	207
30. Halfway Point	1,604	24. English Bay	519
July 1. English Bay	1,162	Sept. 5. Middle Hill	403
2. Northeast Point	6,068	15. Zoltoy	106
2. Reef and Zoltoy	1,616	Nov. 6. Zoltoy	65
4. Tolstoy and Middle Hill	1,703	7. Middle Hill	590
5. Reef, Zoltoy, and Lukanan	2,016	25. Reef	78
6. Halfway Point	990	26. Tolstoy and Middle Hill	185
7. English Bay and Tolstoy	1,618	Dec. 9. Tolstoy and Middle Hill	445
8. Reef and Zoltoy	1,125	15. Sea Lion Rock and Southwest Bay	167
9. Northeast Point	5,717		
9. Southwest Bay	2,061		
			85,996

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1888.

Jan.	25. Northeast Point	532	July.	10. Reef and Zoltoy	1,082
May	19. Tolstoy and Sea Lion Rock	122		12. English Bay and Lukanan	1,554
	24. Reef	113		13. Southwest Bay	1,337
	28. Reef	82		14. Northeast Point	5,088
	31. Zoltoy	290		14. Halfway Point	773
June	2. Reef	121		15. West Point	480
	7. Reef and Zoltoy	175		16. Reef and Zoltoy	2,004
	9. Tolstoy	342		17. English Bay	2,054
	11. Southwest and English bays	927		18. Southwest Bay	2,216
	11. Northeast Point	121		19. Halfway Point and Lukanan	1,410
	12. English Bay	584		20. Zoltoy and Reef	2,018
	15. Halfway Point	428		21. Northeast Point	5,463
	16. Reef and Zoltoy	788		21. English Bay and La- goon	1,347
	18. Southwest Bay	764		23. Reef, Zoltoy, and Luka- nan	1,269
	19. English Bay and Tol- stoy	490		24. Halfway Point	347
	21. Reef and Zoltoy	1,398		25. English Bay	1,619
	22. Halfway Point	799		26. Northeast Point	3,565
	23. Northeast Point	5,562		26. Reef, Zoltoy, and Luka- nan	1,353
	23. English Bay and Mid- dle Hill	700		27. Southwest Bay and Zol- toy	950
	25. Southwest Bay	1,440	Aug.	2. Zoltoy	177
	26. English Bay and Mid- dle Hill	1,158		8. Zoltoy	140
	27. Reef, Zoltoy, and Luka- nan	2,005		16. Zoltoy	155
	28. Halfway Point	911		23. Middle Hill and Luka- nan	362
	29. Southwest Bay	1,098		25. Zoltoy	321
	30. Northeast Point	5,998	Sept.	6. Zoltoy	44
	30. English Bay and Mid- dle Hill	1,625		15. Zoltoy	14
July	2. Reef, Zoltoy, and Lukanan	2,071	Oct.	27. Middle Hill	32
	3. Halfway Point	1,188	Nov.	3. Middle Hill and Zoltoy	126
	4. Southwest Bay	822		15. Zoltoy	277
	5. English Bay and Lukanan	1,942		26. Zoltoy	111
	6. Reef and Zoltoy	1,491		30. Reef	127
	7. Halfway Point	490	Dec.	17. Tolstoy	190
	7. Northeast Point	7,054		26. Sea Lion Rock	78
	9. English Bay and Lukanan	2,398			84,116

Seal-skin record of St. Paul Island, Alaska, 1871 to 1889, etc.—Continued.

1889.

May 22. Sea Lion Rock.....	124	July 10. Halfway Point	932
25. Reef	41	12. Reef and Zoltoy	2,004
28. Reef	234	13. Southwest Bay	1,006
June 5. Reef	201	13. Northeast Point	3,148
10. Reef	120	15. English Bay and Middle Hill	3,083
12. Tolstoy	947	16. Zoltoy, Reef, and Lukanan	1,911
14. Reef and Zoltoy	764	17. Halfway Point	1,931
15. Southwest Bay	340	18. English Bay, Middle Hill, and Lagoon ..	2,045
17. Halfway Point	1,229	19. Southwest Bay	2,016
18. English Bay and Middle Hill	1,160	20. Zoltoy and Reef	1,913
19. Zoltoy, Reef, and Lukanan	1,561	20. Northeast Point	6,301
20. Southwest Bay	253	22. English Bay and Middle Hill	1,943
21. Northeast Point	4,156	23. Reef, Zoltoy, and Ketovy	1,122
22. English Bay and Middle Hill	1,355	24. Halfway Point	1,334
24. Reef and Zoltoy	2,578	25. English Bay and Middle Hill	1,752
25. Halfway Point and Lukanan	979	26. Southwest Bay	679
26. English Bay and Middle Hill	1,314	27. Reef and Lukanan	1,105
27. Southwest Bay	311	27. Northeast Point	3,140
28. Reef, Zoltoy, and Ketovy	1,349	29. English Bay and Middle Hill	1,640
29. Northeast Point	4,260	30. Halfway Point and Southwest Bay	1,588
29. English Bay and Middle Hill	1,038	31. Northeast Point	2,162
July 1. Reef, Zoltoy, and Lukanan	1,023	31. Zoltoy	*156
2. Halfway Point	834	Aug. 6. Lukanan	*163
3. English Bay and Middle Hill	1,841	14. Zoltoy	*181
4. Reef, Zoltoy, and Lukanan	1,716	22. Zoltoy	*139
5. Southwest Bay	1,253	31. Zoltoy	*87
6. English Bay and Middle Hill	1,302	Oct. 26. Lukanan	*44
6. Northeast Point	5,627	Nov. 4. Zoltoy	*80
8. Reef, Zoltoy, and Lukanan	813	19. Tolstoy	*223
9. English Bay and Middle Hill	1,314	21. Reef	*347
		27. Reef	*189
		30. Reef	*246
		Dec. 11. Zapadne	*240
			84,937

1890.

Jan. 27. Sea Lion Rock..... *170 | May 21. Sea Lion Rock..... *131

Recapitulation of seals killed for their skins on St. Paul Island, Alaska, from 1871 to 1889, inclusive.

1871.....	77,620	1876.....	77,900	1881.....	82,386	1886.....	84,890
1872.....	75,352	1877.....	61,584	1882.....	77,798	1887.....	85,996
1873.....	75,437	1878.....	82,152	1883.....	59,258	1888.....	84,116
1874.....	92,221	1879.....	81,001	1884.....	84,733	1889.....	84,937
1875.....	90,036	1880.....	78,923	1885.....	85,395		

I, Max Heilbrunner, secretary of the Alaska Commercial Company of San Francisco, solemnly swear that the foregoing "seal-skin record of St. Paul Island, Alaska, 1871 to 1889," is formulated and compiled from

* Killed for food. The seals killed for food from July 31, 1889, to May 21, 1890, inclusive, do not appear in the records of the Alaska Commercial Company, but are compiled from the official report of the Treasury agent in charge.—M. H.

the books of said company kept on said island, now in my custody, and is correct and true, according to my best knowledge and belief.

MAX HEILBRONNER,
Secretary Alaska Commercial Company.

Subscribed and sworn to before me this 12th day of May, A. D. 1892.
[SEAL.]

CLEMENT BENNETT,
Notary Public.

Max Heilbronner, p. 167.

SEAL-SKIN RECORD OF ST. GEORGE ISLAND, ALASKA, 1871 TO 1889, INCLUSIVE.

Showing the dates, the rookeries from which the seals were driven, and the number killed from each drove.

1871.

Jnne	4. Near rookery	123	July	10. Northern	1,769
	6. Northeast	98		12. Northern	1,021
	8. Near	69		14. Southwest	491
	9. Southwest	277		15. Northern	1,038
	13. Starrie Arteel	322		18. Northern	1,264
	15. Southwest	301		20. Southwest	484
	17. Northern	434		21. Northern	945
	20. Southwest	172		23. Southwest	542
	22. Northeast	518		25. Northern	792
	24. Starrie Arteel	594		27. Northern	1,054
	26. Southwest	298		28. Southwest	730
	27. Northeast	462		30. Starrie Arteel	1,270
	28. Starrie Arteel	571		31. Northern	893
July	1. Northern	875	After August 1		237
	3. Southwest	303			
	5. Starrie Arteel	518			
	8. Southwest	612			
					19,077

1872.

Jnne	4. Southwest.....	140	July	6. Southwest.....	574
	5. Near.....	26		7. Northeast.....	718
	8. Northeast.....	49		9. Starry Arteel and near.	667
	10. Southwest.....	162		10. Northeast.....	610
	11. Starry Arteel and near.	256		11. Southwest.....	1,412
	12. Northeast.....	61		12. Near.....	482
	14. Southwest.....	98		14. Northeast.....	1,332
	15. Starry Arteel and near.	328		15. Starry Arteel and near.	1,183
	17. Northeast.....	405		17. Northeast.....	770
	19. Northern and southwest	773		18. Starry Arteel and near.	575
	21. Northeast.....	860		20. Northeast.....	400
	22. Starry Arteel and near.	1,056		20. Southwest.....	1,171
	24. Southwest and northeast	890		21. Starry Arteel and near.	920
	25. Starry Arteel and near.	837		23. Northeast.....	703
	27. Northeast.....	805		25. Northeast.....	400
	28. Starry Arteel and near.	960		25. Starry Arteel and near.	552
	29. Southwest.....	643		27. Southwest.....	227
July	1. Northeast.....	981	27. Starry Arteel and near.	285	
	2. Starry Arteel and near.	885	27. Northeast.....	350	
	3. Southwest.....	245			
	4. Northeast.....	641			
	5. Starry Arteel and near.	574			
					25,000

Seal-skin record of St. George Island, Alaska, 1871 to 1889, inclusive, etc.—Continued.

1873.

June 4. Near	198	July 5. Starrie Arteel and near.	517
5. Starrie Arteel	240	8. Southwest	743
6. Southwest	285	8. Northeast	616
9. Starrie Arteel and east.	190	9. Starrie Arteel and near.	690
10. Southwest	275	11. Northeast	974
12. Northern	300	11. Southwest	602
13. Southwest	521	12. Starrie Arteel	474
16. Northern	378	13. Northeast	345
17. Southwest	174	13. Southwest	337
19. Northeast	313	16. Starrie Arteel and near.	480
21. Starrie Arteel and near.	596	17. Northeast	1, 097
21. Southwest	870	18. Southwest	913
23. Northeast	180	20. Starrie Arteel and near.	1, 359
24. Southwest	499	21. Northeast	1, 810
25. Starrie Arteel and near.	195	23. Starrie Arteel	889
26. Northeast	241	23. Southwest	513
27. Southwest	301	21. Northeast	1, 710
29. Starrie Arteel and near.	493	26. Southwest	600
30. Southwest	310	26. Starrie Arteel and near.	588
30. Northeast	168	28. Northeast and near	1, 528
July 2. Starrie Arteel	332		
3. Southwest	564		25, 000
4. Northeast	592		

1874.

Killed for food	128	July 3. Northern	792
June 1. Northern	56	8. Northeast	641
8. Northern	81	9. Northern	548
11. East	116	14. Near and northeast....	263
12. Starrie Arteel and north.	154	15. Near and northeast....	534
14. Southwest	250	16. Starrie Arteel	568
16. East	170	18. Southwest	411
18. Starrie Arteel and north.	354	19. Northeast	871
22. Northeast	178	22. Northern	778
23. Starrie Arteel and near..	378	24. Northern	668
27. Southwest	575		
29. Starrie Arteel and near..	686		10, 000
July 1. Northeast	800		

1875.

Killed for food	252	June 28. Northeast	692
June 1. Starrie Arteel and near.	50	30. Starrie Arteel and near.	1, 412
9. Starrie Arteel and near.	256	July 5. Northeast	717
11. Northeast	177	7. Starrie Arteel and near.	1, 019
14. Starrie Arteel and near.	307	12. Northeast	1, 073
16. Northeast	358	14. Northern	676
18. Starrie Arteel and near.	334	17. Northern	177
19. Southwest	1, 294		
23. Northeast	666		10, 000
24. Starrie Arteel and near.	540		

1876.

Killed for food during fall and winter	307	June 24. Starrie Arteel and near.	2, 067
June 1. Northern	108	27. Northeast	1, 168
8. Starrie Arteel	372	28. Starrie Arteel and near.	1, 023
12. Northeast	388	July 3. Northeast	1, 259
12. Southwest	599	6. Starrie Arteel and near.	1, 027
15. Starrie Arteel and near.	784	7. Northeast	317
22. Northeast	581		
			10, 000

Seal-skin record of St. George Island, Alaska, 1871 to 1889, inclusive, etc.—Continued.

1877.

Killed for food in fall and winter.	256	June 23. Northeast	552
June 1. Northeast	198	26. Starrie Arteil	1,860
11. Starrie Arteil	702	29. Northeast	1,589
13. Northeast	578	July 3. Starrie Arteil and near.	1,669
14. Southwest	1,389	6. Northeast	2,164
18. Starrie Arteil and north- ern	1,154	9. Northern	300
20. Northeast	838	10. Northeast	880
22. Starrie Arteil and near.	871		<hr/> 15,000

1878.

Killed for food in fall and winter.	405	July 2. Starrie Arteil and near.	930
June 10. Northeast	385	4. Southwest	1,433
14. Southwest	1,074	8. Northeast	793
17. Starrie Arteil and north- ern	858	9. Starrie Arteil	1,333
19. Southwest	717	12. Southwest	328
22. Starrie Arteil and near.	570	13. Southwest	1,025
25. Northeast	324	15. Northeast	1,892
27. Southwest	851	17. Northern	1,290
28. Southwest	517	19. Starrie Arteil	1,577
July 1. Northeast	644	21. Northeast	1,114
			<hr/> 18,000

1879.

Killed for food in fall and winter.	811	June 25. Southwest	522
June 3. Near	69	27. Southwest	286
10. Northeast	445	27. Starrie Arteil	1,176
11. Southwest	105	30. Northeast	1,584
12. Starrie Arteil and near.	413	July 3. Starrie Arteil	1,412
13. Southwest	372	3. Southwest	849
16. Northeast	445	4. Southwest	351
17. Southwest	498	5. Northeast	535
19. Starrie Arteil and north- ern	755	7. Northern	1,738
20. Southwest	430	9. Starrie Arteil	1,261
20. Northeast	473	14. Northeast	1,636
23. Starrie Arteil and near.	515	15. Northern	863
23. Southwest	574	16. Southwest	800
25. Northeast	882		<hr/> 20,000

1880.

Killed for food in fall and winter.	1,169	June 25. Starrie Arteil	1,320
June 3. North	81	28. Northeast	1,761
8. Northeast	333	28. Southwest	843
11. Starrie Arteil	562	30. Starrie Arteil	808
14. Northeast	351	July 1. Northeast	392
15. Southwest	734	2. Southwest	961
17. Starrie Arteil	557	2. Northern	954
17. Zapadnie	254	5. Starrie Arteil	515
19. Zapadnie	223	6. Northeast	1,481
19. Northeast	596	7. Southwest	1,810
21. Starrie Arteil and near.	1,182	8. Northeast	948
21. Southwest	618		<hr/> 20,000
23. Northeast	811		
25. Southwest	833		

Seal-skin record of St. George Island, Alaska, 1871 to 1889, inclusive, etc.—Continued.

1881.

Killed for food in fall and winter.	640	June 30. Starrie ArteeL.....	707
June 9. Northern	611	July 1. Northeast	1,371
13. Northern	916	4. Starrie ArteeL and uorth-	
15. Southwest	494	ern	1,179
16. Starrie ArteeL	615	6. Southwest	476
20. Starrie ArteeL	445	7. Northeast	1,350
21. Northeast	575	8. Starrie ArteeL	362
21. Southwest	447	11. Northeast	1,300
23. Southwest	227	12. Starrie ArteeL	498
23. Starrie ArteeL	288	12. Southwest	769
24. Northeast	553	14. Southwest	590
27. Starrie ArteeL	814	13. Northeast	1,705
28. Northeast	744	15. Northern	1,627
28. Southwest	373		
30. Southwest	324		20,000

1882.

Killed for food in fall and winter.	534	July 3. Starrie ArteeL and north-	
June 6. Northern	26	east	910
12. Starrie ArteeL and north-		4. Starrie ArteeL and north-	
east	508	east	1,382
16. Starrie ArteeL and north-		7. Starrie ArteeL and uorth-	
east	887	east	1,946
19. Starrie ArteeL and uorth-		10. Northeastern	1,368
east	926	11. Starrie ArteeL and near ..	1,104
22. Starrie ArteeL and north-		13. Northeastern	1,074
east	847	14. Starrie ArteeL	524
24. Starrie ArteeL and north-		15. Northeastern	643
east	1,192	16. Starrie ArteeL and near ..	1,015
26. Starrie ArteeL and north-		18. Northeastern	1,083
east	1,040	19. Northern	510
29. Starrie ArteeL and north-		20. Northeastern	145
east	1,273		
July 1. Starrie ArteeL and north-			20,000
east	1,063		

1883.

Killed for food in fall and winter.	403	July 10. Southwest	507
June 12. Starrie ArteeL and north-		10. Northeast	306
eastern	139	11. Starrie ArteeL	260
15. Starrie ArteeL and north-		12. Northeast	546
eastern	283	13. Starrie ArteeL	321
19. Starrie ArteeL and north-		16. Northeast	775
eastern	61	16. Southwest	1,015
22. Starrie ArteeL and north-		17. Starrie ArteeL	130
eastern	379	18. Northeast	467
25. Starrie ArteeL and north-		18. Southwest	1,216
eastern	684	20. Northeast	280
28. Starrie ArteeL and north-		20. Southwest	1,150
eastern	442	23. Starrie ArteeL	766
30. Starrie ArteeL and north-		25. Northeast	77
eastern	608	27. Northern	606
July 2. Starrie ArteeL and north-		30. Starrie ArteeL and north-	
eastern	340	east	501
4. Starrie ArteeL and north-		Aug. 6. Starrie ArteeL and north-	
eastern	287	east	379
7. Starrie ArteeL and north-		13. Northeast	94
eastern	645		
9. Southwest	1,333		15,000

Seal-skin record of St. George Island, Alaska, 1871 to 1889, inclusive, etc.—Continued.

1884.

Killed for food in fall and winter.	380	July	7. Southwest.....	87
June 3. Northeast	111		9. Starrie Ardeel and north-	
10. Southwest	1,222		east	1,260
12. Starrie Ardeel	690		12. Southwest	971
16. Southwest	581		14. Northeast	298
18. Starrie Ardeel and north-			15. Northern	465
east	552		16. Southwest	726
21. Southwest	582		17. Northeast	990
23. Starrie Ardeel	598		18. Starrie Ardeel	506
26. Southwest	556		23. Southwest	795
28. Starrie Ardeel and north-			23. Starrie Ardeel	744
east	486		25. Northeast	595
July 1. Southwest	298		26. Southwest	572
3. Starrie Ardeel and north-			30. Starrie Ardeel	640
east	71	Aug.	4. Northeast	224
				15,000

1885.

Killed for food in fall and winter.	196	July	1. Starrie Ardeel and north-	
June 1. Northeast	118		east	2,287
10. Starrie Ardeel and north-			6. Southwest	789
east	780		10. Starrie Ardeel and north-	
15. Southwest	775		east	2,156
17. Starrie Ardeel	802		13. Southwest	1,011
18. Northeast	825		16. Starrie Ardeel and north-	
22. Southwest	414		east	2,218
27. Starrie Ardeel and north-			20. Southwest	483
east	1,775			15,000
29. Southwest	401			

1886.

Killed for food in fall and winter.	370	July	5. Southwest	620
June 9. Starrie Ardeel and north-			5. Starrie Ardeel	499
east	1,428		6. Northeast	648
14. Southwest	831		9. Starrie Ardeel	865
16. Starrie Ardeel and north-			12. Southwest	745
east	1,436		13. Northeast	888
21. Starrie Ardeel and north-			15. Starrie Ardeel and north-	
east	742		east	707
21. Southwest	843		19. Southwest	663
23. Northeast	343		20. Starrie Ardeel and north-	
24. Southwest	306		east	1,371
28. Southwest	288		23. Northeast	294
29. Starrie Ardeel	632			15,000
July 1. Northeast	481			

1887.

Killed for food in fall and winter.	282	July	6. Starrie Ardeel and north-	
June 8. Northeast	383		ern	1,321
13. Northeast	465		7. Northeast	421
15. Southwest	427		10. Southwest	701
20. Southwest	261		11. Starrie Ardeel and north-	
20. Starrie Ardeel	974		ern	1,296
24. Northeast	533		13. Northeast	1,509
27. Southwest	599		18. Southwest	1,077
27. Starrie Ardeel and north-			18. Starrie Ardeel	894
east	846		20. Northeast	1,130
29. Northeast	409		22. Starrie Ardeel and north-	
July 1. Starrie Ardeel	100		ern	489
4. Southwest	883			15,000

Seal-skin record of St. George Island, Alaska, 1871 to 1889, inclusive, etc.—Continued.

1888.

Killed for food in fall and winter.		418	July 10. Starrie Arteel.....	1, 169
June 6. Northeast.....		121	11. Northeast.....	810
11. Southwest.....		272	13. Starrie Arteel and north- ern.....	508
11. Starrie Arteel and north- ern.....		455	16. Southwest.....	694
15. Starrie Arteel and north- ern.....		227	17. Starrie Arteel and north- ern.....	1, 090
18. Southwest.....		427	19. Southwest.....	366
18. Starrie Arteel.....		324	20. Starrie Arteel and north- ern.....	550
22. Starrie Arteel.....		761	23. Southwest.....	179
25. Southwest.....		908	24. Starrie Arteel and north- ern.....	405
26. Starrie Arteel and north- ern.....		894	25. Southwest.....	159
27. Northeast.....		438	26. Starrie Arteel and north- ern.....	520
29. Starrie Arteel.....		341	27. Southwest.....	142
July 2. Southwest.....		341	27. Starrie Arteel.....	407
3. Northeast.....		530		
4. Starrie Arteel.....		503		
6. Northeast.....		648		
9. Southwest.....		389		
				15, 000

1889.

Killed for food in fall and winter.		1, 243	July 15. Southwest.....	371
June 4. Northeast.....		156	16. Starrie Arteel and north- ern.....	1, 028
10. Southwest.....		275	18. Southwest.....	439
17. Southwest.....		244	19. Starrie Arteel and north- ern.....	1, 140
18. Starrie Arteel.....		773	22. Southwest.....	500
21. Northeast.....		176	22. Starrie Arteel and north- ern.....	628
22. Starrie Arteel and north- ern.....		284	24. Southwest.....	279
20. Southwest.....		546	25. Starrie Arteel and north- ern.....	1, 450
25. Northeast.....		496	27. Starrie Arteel and north- ern.....	942
27. Southwest.....		223	27. Southwest.....	568
29. Starrie Arteel.....		429	29. Starrie Arteel and north- ern.....	613
30. Southwest.....		167		
July 2. Starrie Arteel and north- ern.....		275		
4. Starrie Arteel and north- ern.....		418		
7. Southwest.....		229		
9. Starrie Arteel.....		269		
11. Southwest.....		192		
13. Starrie Arteel and north- ern.....		667		
				15, 000

Recapitulation of seals killed for their skins on the St. George Island, Alaska, from 1871 to 1889, inclusive.

1871.....19, 077	1876.....10, 000	1881.....20, 000	1886.....15, 000
1872.....25, 000	1877.....15, 000	1882.....20, 000	1887.....15, 000
1873.....25, 000	1878.....18, 000	1883.....15, 000	1888.....15, 000
1874.....10, 000	1879.....20, 000	1884.....15, 000	1889.....15, 000
1875.....10, 000	1880.....20, 000	1885.....15, 000	

I, Max Heilbronner, secretary of the Alaska Commercial Company, of San Francisco, do solemnly swear that the foregoing "seal-skin record of St. George Island, Alaska, 1871 to 1889, inclusive," is formulated and compiled from the books of said company kept on said island, now in my custody, and is correct and true according to my best knowledge and belief.

The following tabulated statement, prepared by me from those accounts [of the Alaska Commercial Company] *Max Heilbronner*, p. 510. show the fur-seal skins purchased and shipped to the company by its agents at Kadiak and Unalaska and from miscellaneous sources from 1871 to 1891, inclusive:

Date.	Unalaska.	Kadiak.	Miscellaneous.	Total.	Date.	Unalaska.	Kadiak.	Miscellaneous.	Total.
1871.....	516			516	1883.....	1,546	106		1,652
1872.....	700	78	725	1,503	1884.....	2,183	35		2,218
1873.....	444		1,905	2,349	1885.....	1,389	96		1,485
1874.....	1,223			1,223	1886.....	2,821	223		3,044
1875.....	356			856	1887.....	4,687			4,687
1876.....	562			562	1888.....	1,757	494		2,251
1877.....	2,500			2,500	1889.....	3,040	95		3,131
1878.....	2,001	12		2,013	1890.....	2,679	543		3,222
1879.....	1,207	124		1,331	1891.....	2,925	471		3,396
1880.....	930	11		941					
1881.....	880	59		939	Total.....				40,988
1882.....	1,030	129		1,159					

The district covered by the company's agency at Unalaska embraces the stations at Unga, Bolkoffski, Sannak, Akontan, Moshrovia, Umnak, Atka, and one or two smaller posts. I am credibly informed by those cognizant of the business and believe that a large majority of the skins from this agency were captured in the North Pacific. The district embraced by the Kadiak Agency includes the stations at upper and lower Kenai, Prince William Sound, and several trading posts on Kadiak Island, and without doubt all the skins from this agency were caught in the North Pacific. A large majority of all the skins from both places were pups a few months old. The skins under the head of miscellaneous were bought from different vessels which brought them to San Francisco. I think they were all or nearly all caught in the North Pacific.

I append hereto a statement showing the number of seals killed annually upon Copper Island from 1871 to 1880, inclusive. This statement shows that 3,658 skins were taken in 1871. This number were shipped that year, but the number actually killed was in fact more than 6,000.

The following table shows the number of fur-seals taken for their skins on Copper Island, of the Commander group, from 1871 to 1880, inclusive, under the direction of C. F. E. Krebs, for Hutchinson, Kohl & Co.:

1871.....	3,658	1877.....	11,392
1872.....	14,964	1878.....	20,070
1873.....	14,661	1879.....	25,166
1874.....	15,480	1880.....	30,014
1875.....	20,440		
1876.....	15,074	Total.....	170,919

NOTE.—There were in fact about 6,000 killed in 1871, of which only the numbers as above stated were shipped. In 1876 and 1877 more could have been taken, but the seal-skin market was depressed and they were not wanted.

The following table, prepared by Hutcheson, Kohl, Philipeus & Co., of San Francisco, lessees of the right to take fur-seals upon the Commander and Robben Islands, *G. Niebaum, p. 204.* shows the number of seal-skins secured annually from these respective islands from 1871 to 1891:

Year.	Comman- der Is- lands.	Robben Islands.	Total.
1871.....	3,614	.....	3,614
1872.....	29,356	.....	29,356
1873.....	27,710	2,694	30,404
1874.....	28,886	2,414	31,300
1875.....	33,152	3,127	36,279
1876.....	25,432	1,528	26,960
1877.....	18,584	2,949	21,533
1878.....	28,198	3,142	31,340
1879.....	38,748	4,002	42,750
1880.....	45,174	3,330	48,504
1881.....	39,314	4,207	43,521
1882.....	40,514	4,106	44,620
1883.....	26,650	2,049	28,699
1884.....	49,444	3,819	53,263
1885.....	41,737	1,838	43,575
1886.....	54,591	.....	54,591
1887.....	46,347	.....	46,347
1888.....	47,362	.....	47,362
1889.....	52,859	52,859
1890.....	53,780	53,780
1891.....	5,800	5,800
			776,467

DEPENDENCE ON ALASKAN HERD.

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From the year 1870 down to the present time deponent's firm have received and handled from the Alaska Commercial Company and from Messrs. Hutcheson, Kohl, *Emil Teichmann, p. 580.* Philippeus & Co., from the North American Commercial Company, and the Russian Seal-Skin Company of St. Petersburg, which company have now succeeded to the lease of the Komandorski and Robben Islands formerly enjoyed by Hutcheson, Kohl, Philippeus & Co., all the skins of seals which have been killed upon the Pribilof Islands and upon the Copper Islands. They have also received at least three-fourths of the skins included in what is called the Northwest catch until the year 1891, when the major part of the skins of the catch were consigned to Messrs. Culverwell, Brooks & Co., of London. A large number of the skins of this catch, amounting in one year to 40,000 a year, have been consigned to deponent's firm by the firm Hermann Liebes & Co., of San Francisco.

The total number of skins of the Northwest catch received by deponent's firm during the years 1872 and 1892, inclusive, are set forth with accuracy in an affidavit made by my partner, Alfred Fraser, in New York, a copy of which, dated April 1, and acknowledged E. T. Rice, notary public, has been received by me from him and I annex hereto a copy of the lists of Northwest skins attached to Mr. Fraser's affidavit, making the same a part of this deposition, and mark the same Exhibit C. I also append hereto as a part of this deposition copies of the lists attached to the affidavits of Mr. Fraser of Alaska skins sold in London by my firm during the years 1870 to 1892, inclusive, and to the Copper Island skins sold by my firm in London during the years 1872 to 1892, inclusive, and mark the same respectively Exhibits D and E, and I refer to the affidavit of Mr. Fraser above mentioned for an explanation

of all said lists and adopt the same explanation given by him as my own. I have carefully verified the figures contained in these latter and find them to be as accurate as any such statement can be made.

Emil Teichmann, p. 582.

EXHIBIT A.

Salted Lobos Island fur-seals sold in London.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1873	6,956	1881	13,569	1889	8,755
1874	8,509	1882	13,200	1890	18,541
1875	8,179	1883	12,861	1891	15,834
1876	11,353	1884	16,258	1892 (to date)	4,800
1877	13,060	1885	10,953	Total	247,777
1878	12,301	1886	13,667		
1879	12,295	1887	11,068		
1880	14,836	1888	20,747		

EXHIBIT B.

Sales of Cape Horn salted fur-seal skins.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1876	6,306	1883	4,655	1890	2,450
1877	7,631	1884	6,743	1891	3,114
1878	8,227	1885	3,404	1892 (to date)	3,966
1879	12,180	1886	909	Total	113,208
1880	17,562	1887	2,702		
1881	13,164	1888	4,403		
1882	11,711	1889	3,021		

EXHIBIT C.

Salted Northwest Coast fur-seal skins sold in London prior to pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1872	1,020	1877 .....	.....	1882	11,727
1873	40	1878	261	1883	2,319
1874	4,949	1879	12,212	1884	9,242
1875	1,646	1880	8,930	Total	64,366
1876	2,042	1881	9,997		

Salted Northwest Coast fur-seal skins, dressed and dyed in London (but not sold there) taken prior to pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1872	699	1877	772	1882	11,159
1873	40	1878	2,434	1883	6,385
1874	122	1879	2,397	1884	10,115
1875	578	1880	4,562	Total	46,215
1876	1,062	1881	5,890		

Dry Northwest Coast fur-seal skins sold in London prior to pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1868	2,141	1875	1,351	1882	321
1869	1,671	1876	993	1883	390
1870	681	1877	1,173	1884	785
1871	12,495	1878	912	Total	42,767
1872	14,584	1879	918		
1873	891	1880 .....	.....	
1874	2,772	1881	686		

Of the skins sold in 1871 and 1872 a very large proportion were the accumulation of the Russian American Company and sold by them after the purchase of Alaska by the United States.

RECAPITULATION.

Salted skins sold in London, 1872-1884.....	64,366
Salted skins dressed and dyed in London, 1872-1884.....	46,215
Dry skins sold in London, 1868-1884.....	42,767
Grand total.....	153,348

EXHIBIT C.

Dry Northwest Coast fur-seal skins sold in London after the commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.
1885.....	1,520	1890.....	699
1886.....	979	1891.....	1,083
1887.....	2,843	Total.....	8,694
1888.....	1,252		
1889.....	228		

Salted Northwest Coast fur-seal skins dressed and dyed in London (but not sold there) taken after commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.
1885.....	16,667	1889.....	2,017
1886.....	15,087	Total.....	39,290
1887.....	3,580		
1888.....	1,930		

In addition to the above it is estimated that from 25,000 to 30,000 skins have been dressed and dyed in the United States.

Salted Northwest Coast fur-seal skins sold in London after commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1885.....	2,078	1889.....	39,563	1892 (to date).....	*28,298
1886.....	17,909	1890.....	38,315		
1887.....	36,907	1891.....	54,180		254,068
1888.....	36,818				

* Of catch of 1891.

RECAPITULATION.

Dry skins sold in London, 1885-1891.....	8,604
Salted skins dressed and dyed in London, but not sold there, 1885-1888.....	39,290
Salted skins dressed and dyed in the United States, estimated, 1885-1889, say.....	30,000
Salted skins sold in London, 1885-1892.....	254,068
Grand total.....	331,962

EXHIBIT D.

Salted Alaska fur-seal sold in London.

Catch.	Skins.	Catch.	Skins.	Catch.	Skins.
1870.....	9,965	1879.....	100,036	1888.....	100,000
1871.....	100,896	1880.....	100,161	1889.....	100,000
1872.....	96,283	1881.....	99,021	1890.....	20,994
1873.....	101,248	1882.....	100,100	1891.....	4,158
1874.....	90,150	1883.....	75,014		13,473
1875.....	99,634	1884.....	99,887	Total.....	1,877,077
1876.....	90,267	1885.....	99,719		
1877.....	75,410	1886.....	90,910		
1878.....	09,011	1887.....	99,940		

EXHIBIT E.

Salted Copper Island fur-seal sold in London.

Year.	Skins.	Year.	Skins.	Year.	Skins.
1872	7,182	1880	38,885	1888	40,333
1873	21,014	1881	45,209	1889	47,416
1874	30,349	1882	39,111	1890	95,486
1875	34,479	1883	36,500	1891	17,025
1876	33,298	1884	20,675	1892	30,678
1877	25,380	1885	48,929	Total.....	708,096
1878	10,000	1886	41,752		
1879	28,211	1887	54,584		

Table of percentages of annual seal-skin supply compiled from table of London trade sales as given by Emil Teichmann.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
Lobos Island					0.0532+	0.0560+	0.0782+	0.1054+	0.0831+	0.0730+
Cape Horn							0.0440+	0.0618+	0.0575+	0.0722+
Northwest Coast	0.0620+	0.110+	0.136+	0.1362+	0.0072+	0.046+	0.0282+	0.0158+	0.00251+	0.0927+
Alaska catch	0.9380+	0.890+	0.813+	0.8047+	0.7743+	0.0830+	0.6204+	0.0113+	0.698+	0.5944+
Copper Island			0.051+	0.059+	0.1653+	0.2364+	0.2292+	0.2059+	0.1363+	0.1677+
Total	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Lobos Island	0.0804+	0.0720+	0.0743+	0.0923+	0.0950+	0.5540+	0.0718+	0.0521+	0.0981+	0.0435+
Cape Horn	0.0946+	0.0607+	0.0624+	0.0734	0.0332	0.0196+	0.0047+	0.0133+	0.0207+	0.0150+
Northwest Coast	0.0730+	0.0825+	0.1213+	0.0685+	0.1187+	0.113+	0.1795+	0.2047+	0.1894+	0.2075+
Alaska catch	0.5417+	0.5307+	0.5343+	0.5442+	0.5821+	0.5447+	0.5307+	0.4721+	0.4728+	0.4975+
Copper Island	0.2103+	0.2451+	0.2097+	0.2610	0.1631+	0.2084+	0.2143+	0.2578	0.2190	0.2359+
Total	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table of annual seal-skin supply compiled from table of London trade sales as given by Emil Teichmann.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
Lobos Island				6,950	8,507	8,179	11,353	13,066	12,301	12,295
Cape Horn							6,306	7,631	18,227	12,180
Northwest Coast	684	12,495	16,303	931	7,843	3,575	4,097	1,945	3,607	15,527
Alaska catch	9,905	100,896	96,283	101,248	90,150	99,634	90,267	75,410	99,911	100,036
Copper catch			7,182	21,614	30,349	34,479	33,298	25,380	19,000	28,211
Total	10,649	113,391	119,768	130,749	136,851	145,867	145,321	123,432	143,046	168,249

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Lobos Island	14,380	13,509	13,200	12,861	16,258	10,953	13,667	11,068	20,747	8,755
Cape Horn	17,562	13,164	11,711	4,655	6,743	3,404	909	2,762	4,403	3,021
Northwest Coast	13,501	10,573	23,207	0,544	20,142	20,265	33,975	43,339	40,000	41,808
Alaska catch	100,161	9,994	100,100	75,914	99,887	99,719	99,910	99,940	100,000	100,000
Copper catch	38,885	45,209	39,111	36,500	26,675	48,929	41,752	54,584	46,333	47,416
Total	184,945	188,436	187,329	139,474	169,705	183,270	190,213	211,693	211,483	201,000

LOSS IF HERD DESTROYED.

LOSS TO UNITED STATES.

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I have signed the firm name to the statement hereto annexed, which has been prepared from a careful examination of the firm books, and I know it to be true in all respects. The seal-skins therein referred to were all purchased at Victoria, British Columbia, and are of the class commonly known as northwest coast skins, *i. e.*, skins from animals which were caught in the Pacific Ocean or in the waters of Bering Sea. The statement represents all of the skins of this kind which were purchased by my firm between the years 1880 and 1890, inclusive, together with the full prices paid for them. I believe these prices to represent the average value of northwest coast skins at Victoria during these years, except that the price paid for the small lot purchased in 1890 is, as I am informed, below the average for that year. I find, however, upon referring to my books, that this lot was composed of small skins, some of them in poor condition.

During the year 1891 we purchased no northwest coast skins, and I am therefore unable to state, of my own knowledge, their value in that year, but I understand that in the fall of 1890 and in 1891 it was very much higher than in any previous year, owing entirely to the diminished catch of seal-skins upon the Pribilof Islands by the lessees of the Government during those years. * * *

Statement by Martin Bates, jr., & Co., of New York.

Year.	Number of seal-skins purchased in Victoria.	Average price per skin.	Total price.
1880	4,355	\$11.10	\$48,342.50
1881	5,303	9.35	49,578.28
1882	8,780	5.80	50,907.87
1883	6,893	5.90	40,700.10
1884	11,527	5.38	62,052.26
1885	13,436	5.27	70,867.00
1886	16,797	4.89	82,211.64
1887	2,996	4.72	14,141.75
1888	3,805	4.35	16,535.60
1889	506	5.74	2,906.90
1890	369	5.70	1,735.00
Total.....	74,767	.....	439,979.80

For many years we have been large purchasers of Alaska (or Pribilof Island) fur-seal skins, having bought in London and brought to this country between the years 1879 and 1891 71,904 such skins. I am familiar with the value and extent of the industry of manufacturing articles of fur-seal skins in this country, my house having until very recently been largely interested in it. This industry is one of great value to the United States. The fur-seal skin is in many respects one of the most valuable furs that has ever been placed on the market. I have read the statement* hereto annexed and signed the name of my firm

* See affidavits of Joseph Ullmann *et al.*, and Samuel Ullmann.

thereto. I believe it to be in all respects correct. I have read the last paragraph in the affidavit of Samuel Ullmann hereto annexed and agree with what is said therein.

The tables hereto annexed marked A, B, C, D, E, and F, have been prepared by me from the printed catalogues of public auction sales in London of fur-seal skins and also from my private memoranda, and from my knowledge and information of the fur-seal industry, I believe them to be correct in every particular. Said tables state all of the salted fur-seals of the Alaska, Copper, northwest coast, and Lobos catiches, which, according to the said catalogues and memoranda, were sold at public auction in London between the years 1868 and 1891, together with the average price per skin obtained during each of said years for the aforesaid skins.

EXHIBIT A.

Salted Alaska fur-seal sold in London from 1871 to 1891.

Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.
		<i>s. d.</i>			<i>s. d.</i>			<i>s. d.</i>
1870.....	9,965	21 8	1879.....	100,036	84 9	1888.....	100,000	78 0
1871.....	100,896	42 2	1880.....	100,161	91 5	1889.....	100,000	67 0
1872.....	96,283	44 10	1881.....	99,921	79 9	1890.....	20,994	146 0
1873.....	101,248	52 0	1882.....	100,100	53 7	1890.....	4,158	98 6
1874.....	90,150	52 6	1883.....	75,914	82 9	1891.....	13,473	125 0
1875.....	90,634	50 9	1884.....	99,887	51 9			
1876.....	90,207	34 4	1885.....	99,719	57 2	Total ..	1,877,977	
1877.....	75,410	39 11	1886.....	99,910	69 3			
1878.....	99,911	69 2	1887.....	99,940	56 0			

EXHIBIT B.

Salted Copper Island fur-seal sold in London in the years 1870 to 1892.

Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.
		<i>s. d.</i>			<i>s. d.</i>			<i>s. d.</i>
1870.....	12,030	18 8	1879.....	23,211	57 6	1888.....	46,333	38 3
1871.....	9,522	21 4	1880.....	35,885	80 0	1889.....	47,416	50 6
1872.....	7,182	33 9	1881.....	45,209	60 0	1890.....	95,486	72 1
1873.....	21,614	36 0	1882.....	39,111	45 6	1891.....	17,025	64 8
1874.....	30,349	40 0	1883.....	36,500	38 3	1892.....	30,678	68 6
1875.....	34,479	41 0	1884.....	26,675	59 0			
1876.....	33,298	24 10	1885.....	48,929	37 0	Total ..	789,648	
1877.....	25,380	26 6	1886.....	41,752	40 0			
1878.....	19,000	38 6	1887.....	54,584	40 0			

EXHIBIT C.

Salted Northwest coast fur-seal skins sold in London prior to pelagic sealing in Bering Sea.

Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.
		<i>s. d.</i>			<i>s. d.</i>			<i>s. d.</i>
1872.....	1,029	9 9	1877.....			1882.....	11,717	20 3
1873.....			1878.....	264	42 6	1883.....	2,319	25 10
1874.....	4,949	34 7	1879.....	12,212	53 5	1884.....	9,242	27 2
1875.....	1,646	30 8	1880.....	8,939	57 0			
1876.....	2,042	21 4	1881.....	9,997	31 7	Total ...	64,366	

EXHIBIT D.

Salted Northwest coast fur-seal skins sold in London after commencement of pelagic sealing in Bering Sea.

Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.
		<i>s. d.</i>			<i>s. d.</i>			<i>s. d.</i>
1885.....	2,078	26 1	1889.....	39,563	39 5	1892*.....	28,298	41 7
1886.....	17,909	28 8	1890.....	38,315	60 10			
1887.....	36,907	30 11	1891.....	54,180	62 0	Total ...	254,068	.....
1888.....	36,818	30 10						

* To March 25.

EXHIBIT E.

Salted Lobos Island fur-seal skins sold in London.

Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.
		<i>s. d.</i>			<i>s. d.</i>			<i>s. d.</i>
1873.....	6,956	(*)	1881.....	13,569	31 1	1889.....	8,755	25 0
1874.....	8,509	(*)	1882.....	13,200	16 5	1890.....	18,541	31 9
1875.....	8,179	(*)	1883.....	12,861	19 0	1891.....	15,834	33 11
1876.....	11,353	(*)	1884.....	16,258	14 1	1892†.....	4,800	25 4
1877.....	13,066	14 5	1885.....	10,953	16 0			
1878.....	12,301	35 6	1886.....	13,667	18 6		247,777	.....
1879.....	12,295	42 0	1887.....	11,068	17 3			
1880.....	14,865	41 1	1888.....	20,747	20 0			

* Unknown.

† To date.

EXHIBIT F.

Salted Alaska fur-seal skins sold in London in the years 1868 to 1871 taken prior to the leasing of the Pribilof Islands.

Year.	Skins.	Average price per skin.	Year.	Skins.	Average price per skin.
		<i>s. d.</i>			<i>s. d.</i>
1868.....	28,220	24 8	1871.....	20,111	20 7
1869.....	121,820	25 0			
1870.....	110,511	20 8	Total.....	280,662	.....

It was one of the first firms to introduce seal-skin garments into the United States, and since 1857 it has constantly been engaged in placing them upon the market. *Franklin L. Gunther, p.* It has been in the habit of buying annually in 531. London from 2,000 to 6,000 Alaska fur-seal skins, and it has handled very many more. I have signed the name of the firm to the annexed statement,* which I have carefully read, and believe to be in all respects correct.

Between the years 1880 and 1890 we handled per annum on an average 12,000 fur-seal skins of the three catches. Between 1885 and 1890 we handled from 35,000 to 40,000 Alaska skins which had been dressed and dyed in London. Of this number we purchased ourselves in London *Alfred Harris, p. 529.*

* See affidavit of Jos. Ullmann *et al.*

and brought to this country about nine-tenths. I have signed the name of Harris & Russak to the statement* hereto annexed, which I have carefully read. I believe it to be in all respects correct. I have read the last paragraph or section in the annexed affidavit of Samuel Ullmann, and I agree with everything contained therein.

I do a large business in fur-seal skins, and between 1885 and 1890 annually bought and imported into this country from London from 6,000 to 8,000 dressed and dyed Alaska fur-seal skins, and a proportionate number of fur-seal skins of the other principal catches. I have signed the name of Asch & Jaeckel to the annexed statement,* which I have carefully read. I believe it to be in all respects correct. I have also read the last paragraph in the annexed affidavit of Samuel Ullmann, and agree with everything therein contained. The same is true of an affidavit verified on the 21st day of June by William Wiepert, my present superintendent.

The quantity of northwest or "Victoria" seals that were dressed and dyed in the United States for home consumption, and never reached the London market, I estimate as follows: 1889, 6,000; 1890, 4,500; 1891, 2,100. These estimates are made up from memoranda I have been accustomed to keep from time to time of the number of skins offered for sale, and which did not go forward to London as shown by the trade sale catalogues.

My duties as such superintendent demanded that I should be thoroughly conversant with all the details of shipping and transporting seal-skins taken, and the necessary expenses incurred by my employers. From my knowledge of such expenditures I herewith submit the following statement in relation to the cost of putting the annual quota of skins obtained on the Pribilof Islands upon the market when a hundred thousand seals are killed, and I believe such statement to be practically correct:

Maintenance of island establishments	\$12,000
Salaries of employes (exclusive of natives)	12,000
Transportation to San Francisco	15,000
Transportation, San Francisco to New York	20,000
Transportation, New York to London.....	6,000
Insurance, \$1,400,000 at 1 per cent.....	14,000
Commission for selling, 2½ per cent of \$1,500,000.....	37,500
Storage, cooorage, twine, salt, etc	15,500
Interest on the plant, 10 per cent of \$100,000.....	10,000
Annual rental paid to Government, per terms of lease.....	60,000
Obligations of the lease for fish, fuel, medicines, etc.....	25,000
Supervision of business from San Francisco.....	20,000
First cost of skins to natives.....	40,000

Cost of 100,000 skins delivered in London, sold..... 287,000

In 1859 he imported 44 seal-skins from London; his annual importations gradually increased until in the year 1877 he imported 16,804 dressed and dyed seal-skins of all catches. His books show the following purchases in London of dressed and dyed Alaska fur-seal skins, all of which

*See affidavit of Jos. Ullmann *et al.*

were brought to this country: 1887, 9,000; 1888, 5,800; 1889, 6,800. These figures fairly represent his average purchases and importations between 1880 and 1889.

The number of Alaska fur-seal skins which are imported annually into the United States, after dressing and dyeing in London, is, upon the basis of the importations during the past ten years and upon a catch of 100,000 skins at the Pribilof Islands, correctly estimated at 65,000 to 75,000. *Joseph Ullmann et al., p. 526.*

The value, before paying duty thereon to the United States, of each dressed and dyed fur-seal skin so imported, may be said to range between \$15 and \$50, with an average value during the past ten years of about \$25 a skin.

The wages paid annually to people engaged in the manufacture and remodeling of seal-skin articles are, on an average, about \$7 a skin, or upon 70,000 skins, \$490,000.

The profits made annually by merchants, wholesale furriers, and retail furriers amount to about \$30 a skin, or upon 70,000 skins, \$2,100,000.

The amount of silk consumed annually in the manufacture in the United States of 70,000 fur-seal skins into articles and in the repairing of these articles, may be estimated at \$150,000 to \$200,000. All silk which is being so consumed at the present time is made in the United States.

The books of the New York house show the following purchases of dressed and dyed Alaska fur-seal skins in London between the years 1885 and 1891. All of these purchases were brought to this country: 1885, 11,818 out of a total Alaska catch of about 100,000; 1886, 12,646 out of a total Alaska catch of about 100,000; 1887, 25,344 out of a total Alaska catch of about 100,000; 1888, 17,900 out of a total Alaska catch of about 100,000; 1889, 14,160 out of a total Alaska catch of about 100,000; 1890, 3,569 out of a total Alaska catch of about 21,000; 1891, 3,240 out of a total Alaska catch of about 13,000. *Samuel Ullmann, p. 527.*

I have signed the name of Joseph Ullmann to the annexed statement,* which I have carefully considered, and to the best of my information and belief this statement is correct, except that I know nothing about the silk consumed. I regard the figures given therein as conservative.

My father dressed and dyed a few seal-skins in 1832, and each year thereafter, and in 1864 this became a lucrative item of our business. Since 1870 the house has bought annually from 5,000 to 6,000 salted fur-seal skins in London, all of which it has dressed and dyed in Albany. *Geo. H. Treadwell, p. 523.*

* * * * *

I understand that my concern and that of J. D. Williams, of Brooklyn, have heretofore been the only regular and recognized dressers and dyers in the United States. Until last year our house dressed and dyed skins only for its own use.

In addition to dressing and dyeing, our house annually manufactures

* See affidavit of Jos. Ullmann et al.

a large number of fur-seal-skin articles. I am deeply interested in the protection of the fur-seals.

That for the twenty years last past deponent's said firm have bought on their own account, dressed and dyed, annually
Henry Treadwell, p. 524. from 5,000 to 8,000 seal-skins. That nearly all of the skins purchased by deponent's said firm are bought of C. M. Lampson & Co., of London, who are the largest dealers in seal-skins in the world. That the majority of the skins bought by said firm are a part of the skins known as the "Alaska" catch—that is, as deponent is informed and believes, the skins of seals killed on the Pribilof Islands by the companies having leases from the United States for that purpose. A certain number of skins bought by deponent's firm are those killed upon the Russian, called the Commander, islands, known as the copper catch, and about 30 per cent of the whole number of seal skins bought by deponent's firm are what are called the northwest coast skins—the skins of animals killed and caught in the open sea.

I have signed my name to the annexed statement,* which I have carefully read, and believe to be correct in every
Henry Treadwell, p. 529. respect. I have also read the last paragraph or section of the annexed affidavit of Samuel Ullmann, and I agree with everything therein stated.

The amount of revenue derived by the United States from the Alaska catch can be estimated from the following figures,
C. A. Williams, p. 539. carefully compiled by deponent, from 1872 to 1887, inclusive:

The total number of skins dressed and dyed in London and shipped to the United States during those sixteen years, was 825,000. The value of the same was £3,253,941, which at exchange of \$4.80 would produce \$15,618,916; the duty upon which at 20 per cent ad valorem would be \$3,123,783. The average duty per annum is \$195,236. The average rental received by the Government and tax during these years from the Alaska Commercial Company was \$317,500, making a total average to the United States from the Alaska seal skins of \$512,736; and the total during the sixteen years above noted of \$8,203,776, all of which, as deponent believes, will be lost to the United States in the future if the destruction is not prohibited.

And as more than half of the Alaska skins sold in London are returned as dressed skins to America, the United
C. A. Williams, p. 546. States Government adds to its revenue from the seal islands by the collection of 20 per cent duty on the valuation of this return. It is estimated that 75,000 dressed and dyed skins were shipped from London to New York in 1887.

Most of the furs dressed and dyed in my establishment are fur-seal skins, and during each of the past five or six
Jos. D. Williams, p. 549. years I have dressed and dyed from 8,000 to 10,000 seal-skins.

* See affidavit of Jos. Ullmann *et al.*

LOSS TO GREAT BRITAIN.

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That the business of dealing in fur-seal skins in the city of London has become an established and important industry. Deponent is informed that practically all the seal skins in the world are sold in London, and the number runs up in the year to between 100,000 and 200,000, averaging considerably over 150,000 a year. These skins are sold for the most part either by the firm of C. M. Lampson & Co., through their brokers, Goad, Rigg & Co., or by the firm of Culverwell, Brooks & Co. At the auction sales, which are advertised twice or three times in the year by these firms, skins are bought by dealers from all over the world, who are present either in person or by proxy. The next stage in the industry is the dressing and dyeing of the furs, and practically the whole of these fur-seal skins sold in London are dressed and dyed in that city. The principal firms being engaged in that business are C. W. Martin & Sons and George Rice. Deponent's own firm dress a small number of skins and have dressed in one year as many as 23,000, and formerly dyed large numbers of skins, but do not now dye skins, as the secrets of the present fashionable color are now in the hands of other firms. After having been dressed and dyed, the skins of the fur-seal are then passed into the hands of fur merchants, by whom in turn they are passed to furriers and drapers and retail dealers generally. Deponent estimates the total number of persons engaged in one way or another, directly or indirectly, in the fur-seal industry in the city of London at at least two or three thousand, many of whom are skilled laborers, all receiving high wages.

That a large amount of capital is also invested in the business in the city of London, and the precise value of the industry can be estimated by reckoning the amount expended in the various processes which deponent has enumerated upon each skin. For instance, after the skins arrive at the London market they are sold at the sales at prices which in the year 1890 averaged say 80 shillings apiece. The commissions on the selling of the goods including warehousing, insurance, and so forth, deponent believes amounted to 6 per cent of the price obtained. That the amount paid for dressing, dyeing, and machining each skin averages say 16 shillings. These processes take together about four or five months. The next expenditure upon the skin is, say, an average of five shillings at least for each skin for cutting up, and that thereafter there will be an average of at least from 3 shillings to 4 shillings per skin expended in quilting, lining, and making up the jackets or other garments, showing a total expenditure upon each skin for labor alone, in the city of London, of 25 shillings in addition to the percentage paid for brokerage, before the process of manufacture began, and the most of this money is actually paid out in wages.

Deponent says, that in the above estimates he has given the bottom figures and that the amount actually expended upon the skins in the city of London undoubtedly averages a larger sum. This would make on an average of 200,000 skins a year, which is not excessive, a total expenditure annually in the city of London of £250,000, minus the amounts paid for cutting and making up in respect to the skins sent to the United States.

Deponent says that the number of persons who are employed in the handling, dressing, dyeing, cutting, and manufacturing of seal-skins in the city of London is about 2,000, many of whom are skilled laborers, earning as high as £3 or £4 a week. Deponent estimates the amount paid in the city of London for wages in the preparation of fur-seal skins for a manufacturer's uses, and excluding the wages of manufacturers' employés, prior to the beginning of the pelagic sealing in 1885, at about £100,000 per annum.

A large capital, the amount of which, however, it would be difficult to estimate, is invested in the business of selling raw fur-seal skins. Two firms own large warehouses, and one of them expensive cold-storage vaults, portions of which are used exclusively for the purpose of storing fur-seal skins.

About seven firms are engaged in the dressing and dyeing of seal-skins, of which a very much larger amount is done in London than in any other city in the world. In this branch of the fur-seal industry there are invested about £80,000 in permanent plant, which would become entirely useless if the seal-skin industry were to come to an end.

About 12,000 dressed and dyed Alaska fur-seal skins, which may be valued at £5 a skin, are annually manufactured into garments in London, and a very much larger proportion of Copper and Northwest coast skins are so consumed.

The seal-skin industry furnishes occupation to workmen in London as follows: To about 600 dressers and dyers; to about 1,400 cutters, nailers, sewers, and other laborers engaged in manufacturing seal-skin articles. Many of those employed as above are skilled laborers, who, in any other employment, would be but ordinary laborers. Some of them have been engaged in this industry from childhood. In the foregoing no account is taken of the numerous clerks, salesmen, and porters, of whom large numbers owe their means of support to the trade in fur-seal skins.

I believe that in round numbers the capital invested in this industry in London amounts to £1,000,000, and that when a full Alaska catch came to market the weekly amount expended in wages in connection with all the catches was about £2,500 or £3,000 a week.

That the business at the present time has attained the rank of an important industry, in which there is embarked in the city of London a large amount of capital and upon which there is dependent a large number of workmen and employés. The amount of capital from time to time invested in the business is correctly stated, deponent believes, by Mr. Teichmann, at as much as £1,000,000, and until within a year or two the numbers of persons depending upon the industry for their support has likewise been correctly stated by Mr. Teichmann, approximately at 2,000 persons, receiving on an average a weekly wage of 30 shillings, and most of them having families dependent upon their labors for their support.

During the last two years the diminution and irregularity of the supply of fur and seal skins has caused some decrease in the amount of persons engaged in the industry, but deponent is not able to state exactly to what extent such decrease has taken place.

A considerable number of the persons employed in this business, as deponent is informed, are not skilled in any other kind of business, and should the fur-seal industry cease, deponent believes that these persons would be obliged to master some other trade or means of livelihood.

That deponent has made no examination of the books of his firm for the purpose of seeing precisely the number of skins annually dressed and dyed by his said firm *Walter E. Martin, p. 567.* and its predecessor, but it is the fact that his said firm in one year dressed 150,000 fur-seal skins, and of that number dyed 130,000, and it is also the fact that until within the last two years his firm dressed upwards of 110,000 or 120,000 skins in each year, and dyed upwards of 100,000 skins so dressed.

The firm of C. W. Martin & Sons has employed until the last two years 500 persons, and employ at the present moment about 460 persons, most of whom are *Walter E. Martin, p. 568.* skilled laborers, receiving on an average at least 30 shillings a week, and most of whom have families dependent upon them for their support. Deponent estimates that the total number of persons employed directly or indirectly in the business of dressing, dyeing, handling, and cutting fur-seal skins up to within the last two years in the city of London was about 2,000.

The principal dressers and dyers of the city of London at the present time are C. W. Martin & Co. and George Rice, and skins are also dressed and dyed by other persons. *Henry Poland, p. 571.* The fur-seal business has attained very considerable dimensions in the city of London, large amounts of capital being invested therein, and probably in and about the city of London there are employed in the fur-seal skin business as many as 3,000 persons, most of whom are skilled hands, some of whom receive as high as £3 or £4 a week, and many if not most of whom have families dependent upon them for support.

That the business of handling and dealing in fur-seal skins has become, in the city of London, an established and important industry. That deponent himself, for *Geo. Rice, p. 574.* instance, employ at the present time from 400 to 500 laborers, who are mostly engaged in one way or another upon fur-seal skins, many of whom are skilled workmen receiving good wages, and many of them having families dependent upon them for their support. Deponent estimates the total number of people engaged in the business of handling, dyeing, dressing, and treating fur-seal skins up to the time the skins pass into the hands of the furriers at about 2,000. In addition to the numbers so employed, a much larger number of furriers, employes, and the employes of the retail merchants are concerned directly or indirectly in handling or manufacturing the fur-seal skin or fur-seal skin garments.

Deponent further says that a large amount of capital is in one way or another invested in the city of London in the business above enumerated.

That the fur-seal skin business had become an important industry in the city of London, in which a large amount of capital was invested and a large number of workmen employed, amounting, including the dressers, dyers, handlers, and persons employed in the manufactories of the *W. C. B. Stamp, p. 576.*

furriers, to about 3,000. It is difficult to make any correct estimate of the number of people so employed, but deponent says that he has recently had occasion to look into the question in his capacity as master of the Skinners' Company and he believes the above figure to be substantially correct.

That a large number of persons so employed are skilled laborers and most of them have families dependent upon their labors for their support. The wages paid in some cases are as high as £3 or £4 a week, and perhaps the average wages of the whole number may be safely estimated at £1 per week. That many of these persons know no other business than that in which they are at present engaged.

A very large amount of capital is invested in the Kingdom of Great Britain in the business. It is, in deponent's judgment, fair to estimate the amount of capital invested in the business in one way or another to have been at times as much as £1,000,000, and that there have been until lately dependent upon this industry, in the city of London, about 2,000 skilled workmen, most of whom have families dependent upon them for support, and the amount of wages paid to those people deponent estimates on the average at about 30 shillings per week, making an aggregate of £150,000 per annum.

Deponent further says that the number of persons who are engaged in the handling, dressing, and dyeing of seal-skins in Great Britain is about 2,000, many of whom are expert workmen and receive high wages; and the number in the United States is about 300. The number of persons engaged upon the poaching vessels is about 10 to each vessel, and a considerable number of the persons engaged upon the Canadian sealers are American citizens.

LOSS TO FRANCE.

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That there has gradually sprung up a large demand for this article in France, which demand was at its height two years ago, during which year the said firm bought and sold 10,000 skins at the average price of the last ten years. That in consequence of the falling off in the supply of Alaska skins (Pribilof Islands and Bering Sea) two years ago, the price had increased from 50 to 75 per cent, and in consequence, the year after, the demand was affected so that instead of selling more than 10,000 skins the firm scarcely sold 5,000, and a still smaller number this year.

That the said firm [Emin Hertz & Co.] generally buys its seal-skins at the London auctions in their undressed state, and has them dressed in London and dyed partly in London and partly in Paris.

That the said firm of Révillon Frères have bought during the last twenty years upwards of 400,000 seal-skins; that nearly all of these skins have been dressed in London, where there are special facilities therefor; that the firm of Révillon Frères have tried several times to dress the skins themselves, but in very small quantities.

That all the skins bought by the said firm of Révillon Frères are dyed in France, and therefore the skins pass under our eyes in the following conditions: (1) in salt when we buy them in London; (2) dressed; (3) dyed. That deponent believes that the firm of Révillon Frères is by far the largest firm of furriers and fur dealers in France; that the greater part of the skins bought by Révillon Frères are made up into garments, cloaks and mantles, but that some of the skins, after having been dyed, are sold to other manufacturers.

That the sales of seal skins by the said firm of Révillon Frères have amounted for the last twenty years to about 4,000,000 francs per year.

That the number of persons employed by the said firm for the dyeing, scraping, manufacturing, lining, and for the sale of the seal-skins, is about 300, of which the greater part are well paid, on account of their work being upon a very valuable species of merchandise, and that there are about 500 or 600 persons employed in the industry in France, exclusive of salesmen, porters, etc.

That in the years from 1872 to 1877 we bought only Alaska seal-skins (that is to say, those from the islands of Pribilof) and the Copper catch, coming from Russia, and a few skins coming from the islands of Lobos and from the South Seas.

NEED OF REGULAR SUPPLY OF SKINS.

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Deponent further says that the preservation of the seal herds and the continued supply of fur-seal skins, which, furthermore, it is important should be constant and regular in supply, is absolutely necessary to the maintenance of this industry. Deponent says that the reason for this opinion is shown in the history of last season's business. For instance, at the October sale, the prices of skins were very high, as a short supply was expected. The skins purchased at that sale were then put into the hands of the dressers and dyers, where they would be retained, as above stated, in process of treatment four or five months. During this interval it appeared that instead of there being a short supply the poaching vessels had caught a large number of skins, 50,000 or 60,000, which being unexpectedly plumped on the market, brought the price down so that there was a loss of perhaps 25 shillings per skin on the skins bought at the October sales; and deponent further says that it is of course obvious that the business can not be maintained unless the herds are preserved from the destruction which has overtaken the South Sea herds, which formerly existed in such large numbers, and so important has the seal-skin business become that if the herds were exterminated deponent says it would hardly be worth while to remain in the fur business.

That the increased price of seal-skins two years ago, caused by the falling off in quantity, has not been maintained, although this year there is perhaps even a fewer number of seal-skins, which indicates, in the opinion of deponent, that the article when offered at a high price is within the means of only a very few persons, and the demand for it will continue to decrease.

H. S. Bevington, p. 553.

Emin Hertz, p. 588.

That the trade has every interest to bring about a regular production; that is to say, the production to be approximately always the same, as this would obviate the frequent change in price and render business less speculative.

The business of dealing in fur-seal skins has of late entered into a speculative stage, which is doing it much injury. *Arthur Hirschel, p. 563.* The trade can no longer know with certainty when and in what quantities seal-skins will be placed upon the market. To remedy this I am of the opinion that hereafter skins should be taken only from animals of the male sex and upon land, under Government regulations such as have heretofore existed.

That one of the most important, and deponent feels justified in saying, vital elements in the maintenance and preservation of the business or industry is that the supply of fur-seal skins should be regular and constant, so that intending buyers may be able to know beforehand approximately what the prices of their stock in trade are going to be, and that the people engaged in the business may have beforehand a reasonably definite notion of what they shall be able to count upon.

Deponent knows, of his own knowledge and from conversations with the merchants and dealers above mentioned, that it is a matter of vital importance to the continuance of the fur-seal industry and the industries resulting therefrom and dependent thereon that the supply of fur-seal skins should be constant; that is, that the number of skins coming upon the market in each year should be known the year beforehand with approximate certainty, and that it should not vary greatly from year to year. That this is necessary in order that prices may be fixed and that those persons or firms who physically deal with the skins, such as deponent's firm, should know what provision they must make for the business of the ensuing season. That down to within a few years last past, three or five years, the supply has been regular, but that during the last three or five years, and notably during the last two years, the supply has fluctuated very largely and continually diminished, and in consequence thereof business has greatly suffered.

Deponent further says that the continuance of this business depends very largely upon the maintenance of a steady and regular supply of fur-seal skins in order that the trade may be able to calculate, with approximate certainty, the number of skins which are to be received in each year.

Besides, skins are being now put on the market at such irregular times and in such uneven quantities that buying them has become a speculative business. I believe that the whole trouble has been brought about by the Victoria and other pelagic sealers, who furnish the present cheap skins.

Then, too, during the last few years buying fur-seal skins has become a business of a very speculative character, because it is impossible now to calculate at what times and in what quantities they will be placed upon the market. It requires from three to six months to properly dress and dye skins, and if while this process is going on further sales take place (as has been the case at frequent intervals in the last two years), the tendency is to unsettle the market, advance or reduce the raw material, and thus directly affect both dealers and manufacturers. This has happened of late years only. I ascribe the present unsatisfactory condition of the business to the injurious operations of the Victoria sealers, whom I furthermore hold directly responsible for the present diminished catch of Alaska seals upon the Pribilof Islands.

The principal reason for the fluctuation in prices this year [1886] and in other years was the disturbed condition of the

London market, caused by reports of large collections, and so greatly did the catch of 25,000 skins affect the market that the skins sold for less in London than was paid for them in Victoria, British Columbia, entailing loss on the purchasers. *T. T. Williams, p. 498.*

INVESTMENTS.

CANADIAN INVESTMENT IN 1890.

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I am very well acquainted with the class of vessels engaged in sealing. The most of them are of less than 100 tons burden, and a fair estimate of their average value would be, I should say, about \$4,500 per vessel, for both the American and British fleet, and about \$2,000 would cover the average cost of an entire outfit for a season's work. The total value of the Canadian sealing fleet is not, after all, as much as the sealers would lead us to suppose from their representations. *Isaac Liebes, p. 454.*

The second branch of my investigation was the number of vessels owned by Canadians engaged in sealing in the Bering Sea, their value, cost of outfit, etc. *T. T. Williams, p. 499.*

There are in the business twenty-four schooners. Total tonnage, 1,464 tons. Total value, including outfits, \$173,350. Whites employed, 261. Indians employed, 385.

Of these twenty-four schooners sailing under the British flag, five are owned half by Americans. These five schooners illegally under the British flag are worth \$36,500, leaving an actual Canadian investment of \$136,750.

It is a simple task to arrive with exactitude at the value of the schooners and their outfits. They cost to build in British Columbia \$80 per ton. In the United States the cost is \$100 per ton. The gross tonnage of the fleet being 1,464 at the American rate of \$100 a ton, it would represent \$146,400; at the Canadian rate, \$117,120. *T. T. Williams, p. 500.*

This would be for the schooners as they are delivered new, with masts, sails, anchors, and fittings.

Some of the sealing schooners are fine, new boats, others are very old. The *Mary Taylor* and *Mary Ellen* have both seen thirty-five years of buffeting about the stormy ocean, while the *Lilly* has been forty-six years afloat. The *Black Diamond* is really unfit for sea, and the *Juanita* was driven out of the coast trade as unsafe and past repair. This was the fate of the *Wanderer* also. The *Letitia* I saw lying in the Victoria bone-yard being broken up, and the *Mountain Chief* is ready for the same fate.

In order to get an exact valuation, I procured, when possible, the record of the latest sale of the vessel, and in other cases employed an expert shipbuilder or took the valuations of the underwriter's expert, not on the amount for which the vessel was insured, but his estimate of what it would cost to replace her.

In every case the value I have given, except in case of actual sale, is rather more than the vessel would sell for in an ordinary bargain.

In the course of my investigation as to the value of the trade to Canada, I secured a copy of a report made for the Dominion Government by A. R. Miln, esq., surveyor of the port of Victoria. While Mr. Miln is naturally prejudiced somewhat in favor of his Canadian friends in preparing a report which will be made the basis of their claim on the United States Government, he is clearly an honest official and has done his work generally correctly. His estimate of the total value of the Victoria sealing fleet is \$200,500, or \$27,150 in excess of my valuations. As his figures are certain to be the ones adopted by the Canadian Government, I took special pains to correct my valuations thoroughly when they differed from his. I found that in many cases he had taken the owner's valuation, which was far in excess of the real value. I append the real value as compared with Mr. Miln's estimates, and also a copy of Miln's report made August 17, 1889, sworn to before A. L. Belyea, esq., Victoria, British Columbia, and forwarded to the governor-general of Canada.

As a sealing schooner is only engaged one-third of her time in the Bering, the other two-thirds being spent in the west coast sealing, fishing, otter hunting, or some other business, only one-third of the fleet's value can properly be said to be invested in the Bering sealing business. The actual cash investment of all the Canadas in this traffic is therefore one-third of \$136,750, or the insignificant sum of \$45,585.33, and even that would not be lost if the traffic were stopped.

Where Indians are employed as hunters, the expense of the outfit and voyage is much less. The Indians hunt from their own skin canoes, kill with spears instead of firearms, so that other seals are not frightened away, and feed themselves on seal blubber. They are paid \$1.50 per skin and seal with two men to the canoe, one to spear and one to paddle. The cost of an outfit for a schooner carrying thirty Indians, which is a common number is fifteen skin canoes at \$20, \$300.

The expense of the voyage is for the wages and board of a white captain and four sailors, salt for seal-skins and a little tea and crackers for the Indians.

Indian sealing being so much cheaper and more profitable all the schooners would engage Indians were it not for the fact that these Siwash are an extremely troublesome race and require the utmost tact and skill to manage. Only a few captains can handle them to advantage and they are mostly captains who have Siwash blood in their veins.

EMPLOYÉS IN CANADA AND LONDON.

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(See "Loss to United States" and "Loss to Great Britain.")

EMPLOYÉS IN CANADA AND UNITED STATES.

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There are now employed in this house in the manufacture of fur articles about 140 men and women. If we were to lose the seal-skin industry, I do not know what would become of the business as a whole. It would be very seriously crippled. I have signed the name "Estate of John Ruzsits," the name under which the business is now carried on, to the annexed statement.* I believe it to be correct in all respects. With regard to the approximate number of people stated to be employed in the seal-skin industry in the United States I will say this, that probably in the fall and winter a greater number, while in summer fewer, are employed; but I believe the number given to fairly represent the average number employed throughout the year. I agree With all that is said by Samuel Ullmann in the last paragraph or section of his affidavit verified June 21 and hereto annexed.

In this industry we have constantly employed during the last ten years about forty men and women, who receive average wages of \$1.25 to \$2 a day. Our "piekers" get an average of \$1.25 for each skin, and they handle about three a day. My pay roll averages about \$500 a week.

Working men and women are employed in the industry of manufacturing seal-skin articles in the United States as follows:

	Number.	Wages per diem.
a. Fur-cutters (i. e., people who trim, repair, and prepare the general shape of skins).....	1,200	\$3.50 to \$4.50
b. Nailers (i. e., people who stretch and nail skins into shape on boards).....	600	2.00 to 2.50
c. Sewers and finishers (i. e., people who put the article into final shape).....	1,500	1.50 to 2.00
d. Those who machine skins (i. e., remove the portion of guard hairs left by the "unhalers").....	60	2.00
Total.....	3,360	

The fur-cutters represent skilled labor of a high order. They handle about eight skins a day.

No account is taken of porters, clerks, sales men, etc., employed in the large establishments.

I employ, and for some time past have employed, about 60 workmen, and my pay roll amounts to about \$900 a week. Most of these workmen can be classed as skilled laborers.

* See affidavit of Jos. Ullmann et. al.

CANADIAN INVESTMENT QUESTIONABLE.

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But there is really not one dollar actually invested in the Bering Sea sealing, and for these reasons:

(1) All the schooners are engaged in other business, such as hunting and fishing down the west coast and in the North Pacific.
T. Williams, p. 500.

(2) If the sealing business was stopped entirely the schooners would not depreciate a dollar in value.

(3) The sealing business requires no special plant, weapons, or utensils. The schooners are common schooners, the boats common boats, and the guns common guns which will bring their value at any time for any other purpose.

(4) Less than one-third of a sealing schooner's cruise is in the Bering.

PELAGIC SEALING A SPECULATION.

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There is very little in the sealing business now, the cost of fitting out a vessel being from \$5,000 to \$6,000, and you have to take the risk of having your vessel confiscated.
Wm. Bendt, p. 405.

I sent my vessel this year over to the coast of Japan. There were some seventy-odd schooners fitted out last year from Victoria and they all got good catches, while from here there were only from ten to fifteen schooners fitted out, and they did not do as well.

If a vessel hunts seals from January to May along the coast and pays expenses it does well at the present time, and very few do it. Nearly all would lose money if the hunting was confined to the Pacific Ocean, but they depend on the Bering Sea catch, where the seals are more plentiful and occupy a more limited space as a feeding ground.
William Brennan, p. 360.

The increased value of skins in the last few years has stimulated inexperienced men to go into the business, and they slaughter everything in sight without regard to sex.
Geo. Fogel, p. 424.

And it is a common remark among seamen who ship on sealing vessels that they do not care about going, for there is nothing in it, and only those will ship that are hard up and can get nothing else to do.
Jas. Laflin, p. 452.

The seals taken by schooners do not bring in the London market more than one-half realized by the lessees of the Pribilof Islands. The reason for this is the company's are all young bulls and are killed by being clubbed on the head, while those killed by the schooners are of all kinds and sizes and are perforated with shot; consequently are not perfect skins.
Morris Moss, p. 342.

I held the position of chief bookkeeper and cashier for H. Liebes & Co. during said period of time [from 1883 to 1892, inclusive] and know of my own personal knowledge that the number of skins set forth below were duly purchased by said firm at the average prices stated, and that payment therefor is regularly entered on the firm's cash books of the respective years.
S. W. Saalburg, p. 521.

Statistics of prices.

Year.	Number of skins.	Amount paid.	Average price.	Year.	Number of skins.	Amount paid.	Average price.
1883.....	99	\$430.00	\$4.34	1889.....	24,486	\$176,221.00	\$7.20
1884.....	11,108	62,031.00	5.58	1890.....	30,011	302,417.00	*10.08
1885.....	9,854	74,184.75	7.53	1891.....	11,174	164,637.00	*14.74
1886.....	7,563	37,729.25	4.99	1892.....	1,322	14,506.00	*10.97
1887.....	17,956	99,549.50	5.54				
1888.....	13,459	74,956.00	5.57		127,032	1,006,661.50	.....

* Recent increase in price.

I have signed the name of Joseph Ullmann to the statement hereto annexed, which has been prepared from a careful examination of the books of the house of said Joseph Ullmann in the city of New York, and I know said statement to be correct and true in every respect. All of the seal skins therein referred to are of the class known as Northwest Coast skins. In this term I mean to comprise all skins taken in the Pacific Ocean or in the waters of Bering Sea. The skins in question were purchased at Victoria, British Columbia, with the exception of 499, which were purchased in August, 1899, at San Francisco. Said books show the following assortment of portions of these skins, respectively, 1,835 and 1,076 in number, bought in May and June, 1888, together with the prices paid for each grade per skin:

May, 1888.

	885 Bering Sea seals.....	\$4.57
	551 West Coast seals.....	5.00
I }	102 West Coast gray pups.....	1.25
	2 West Coast pups.....	2.50
	252 West Coast seals.....	5.00
II }	41 West Coast gray pups.....	1.00
	2 West Coast pups.....	2.50

June, 1888.

985 seal skins.....	4.80
18 seal skins.....	6.00
100 gray pups.....	1.25

The skins marked I formed one lot and represented the catch of a single vessel. The same is true of the skins marked II. The percentage of gray pups contained in each of these lots, both of which were bought on assortment, is not an unusual one.

The house of Joseph Ullmann has, of late years, been one of the largest single buyers of seal skins at Victoria, and my knowledge and experience enable me to state that the prices paid by this house, as contained in the annexed statement, represent fairly the value of such skins at Victoria in each of the past five years. *Saml. Ullmann, p. 533.*

The rapid rise in the price paid for these skins in the years 1890 and 1891 can only be explained through the sudden decrease, which in the years 1890 and 1891 took place in the annual catch on the Pribilof Islands. As soon as it became known in the latter part of the summer of 1890 that only about 21,000 skins had been taken that year on the Pribilof Islands, the price of skins rose rapidly at Victoria; and reference to the annexed statement will show that while in June we had bought at less than \$7 a skin, in September of the same year we pur-

chased at \$11 a skin, these September purchases having been made at my direction immediately after the receipt of the information concerning the reduced catch on the Pribilof Islands.

Our Northwest Coast purchases of 1891 were made in open market. The still higher prices paid in that year were directly due to the so-called *modus vivendi* between the United States and Great Britain, whereby the Pribilof catch was reduced to 7,500 skins, and sealing in the waters of Bering Sea entirely prohibited.

1887.				1889—Continued.			
Month.	Number of seal-skins purchased.	Total price.	Average price per skin.	Month.	Number of seal-skins purchased.	Total price.	Average price per skin.
May	730	\$3,910.00	\$5.35	August	499	\$3,507.75	\$7.03
August	57	295.00	5.17	October	630	4,882.50	7.75
October	4,706	27,138.40	5.76				
1888.				1890.			
May	1,835	\$8,237.95	\$4.49	May	2,210	\$20,965.50	\$9.48
June	1,076	4,831.40	4.49	June	613	5,332.50	8.69
September	3,516	20,208.75	5.75	Do	435	3,031.50	6.97
October	3,686	20,700.74	5.61	September	2,618	28,766.00	10.98
				Do	2,152	23,672.00	11.00
				October	1,828	20,605.80	11.27
				Do	2,615	30,358.00	11.60
				Do	1,366	16,254.25	11.10
1889.				1891.			
April	529	\$3,236.00	\$6.12	May	1,487	\$22,232.00	14.95
May	1,992	13,622.20	6.82	Do	26	312.00	12.00
June	258	1,440.25	6.18	July	105	1,715.00	16.33
July	138	1,060.75	7.61				
Do	678	4,860.95	7.17				
Do	24	150.80	6.28				
August	1,137	7,159.00	6.29				

In considering the number of skins taken during the past it must be borne in mind that the schooners have frequently been seriously interfered with in their work by the cruisers of the United States Government.

Mr. Miln, surveyor of the port of Victoria, in his report to the Dominion Government, of which I was so fortunate as to secure a copy, stated that if not interfered with by cruisers a large-sized schooner would surely capture 3,000 skins during the season in the Bering. Mr. Miln's estimates in that respect, as in many other matters, I found to be fair and honest. * * *

I append, as a part of this affidavit, a copy of the report I made to the Alaska Commercial Company on this subject in 1889, and which they used for the purpose hereinbefore set forth, and I desire to add that subsequent inquiry has proved that the statements and conclusions in the report I then made were correct. It must be taken into consideration that the estimates of the profits of sealing voyages, and other matters contained in that report, were based upon the value of skins in that and former years. Subsequently skins have increased in value, and profits of large catches would therefore be proportionately greater, but the conditions of sealing have not changed since then, nor can they change, with the exception that the fleet of sailing vessels has largely increased, consequently the destruction of seals has been much greater in the last two years.

To the President of the Alaska Commercial Company:

I have made a thorough and accurate examination of the seal-hunting industry of British Columbia which is carried on in Bering Sea, in accordance with the following instructions received from your company: *Theodore T. Williams, p. 496.*

"Exact account of British Columbia fur-seal industry, to go back as early as possible and show the area over which the seals were hunted before the existence of the Alaska Commercial Company (1870) and during the early years of the lease.

"It should show the development and expansion of the business, in accordance with the enhanced value of skins, caused by the operation of the company.

"As exactly as possible it should give—

"Statistics of yearly catch and prices obtained for same at British Columbia, number of vessels employed, their value and cost of outfit, and any other details of the business possible.

"To be of value it should be accurate, and not merely approximate, as we desire to use the figures to base our estimate for bidding for renewal of the sealing lease, an important factor, in which must necessarily be the probability of the continuance of illicit sealing and its consequent depletion of the seal herd. The profits to illicit sealers being greater or less, will, of course, increase or decrease their number.

"There should also be a careful statement made and sworn to by competent men of the value of the vessels that have been seized and stranded at Unalaska or condemned elsewhere. All this should be prepared as honestly and correctly as possible, with no effort to minimize values, but only to state honestly, as near as may be, real values."

Statistics of yearly catch.

1881.

The first seal-skins ever handled in British Columbia caught in the Bering Sea were taken in 1881. Prior to that year, no vessels sealed in the Bering. In 1881, the American schooner *San Diego* caught 193 seals in the Bering, and sold the skins to T. Lubbe, of Victoria, British Columbia, at \$9.25 per skin. These skins were shipped to London, as are nearly all of the skins bought in Victoria, British Columbia, and the trade, therefore, brought no profit to Canada, T. Lubbe being an American. I have, however, included the record of this and all other collections made by American ships in the Bering Sea when sold in British Columbia, because they all figure in the reports of the Victoria custom-house. In keeping the collection of the American and Canadian vessels from the Bering district, you can see at a glance the relative value of the Bering Sea collection to American and Canadian sealers.

1882.

American schooner *San Diego*: Bering Sea collection, 327 seals; sold to T. Lubbe at Victoria, British Columbia, at \$8 per skin.

1883.

American schooner *San Diego*: Bering Sea collection, 908 skins; sold to T. Lubbe, Victoria, British Columbia, at \$10 per skin.

1884.

Bering Sea collection, sold in Victoria, British Columbia: American schooner *San Diego*, 980 skins, at \$8; American schooners *Otter* and

Alexander landed in Victoria, British Columbia, 1,700 skins to be reshipped to H. Liebes & Co., of San Francisco, owners of the two vessels; British schooner *Mary Ellen*, 1,409 seals, sold at \$7.50 per skin.

Thus it will be seen that the British Columbia seal industry in the Bering began in 1884. The *Mary Ellen* was owned by D. McLean, was of 63 tons, had a crew of twenty-one whites and was worth \$6,000, including her outfit.

1885.

Bering Sea collection: American schooner *City of San Diego*, 1,953 skins, at \$7.60; American schooner *Vanderbilt*, 1,244 skins, at \$7.60; American schooner *San Diego*, 1,726, at \$7.39; American schooner *Look-out*, 1,100, at \$7.50; British schooner *Favorite*, 1,383, at \$7.60; British schooner *Mary Ellen*, 1,773, at \$7.60.

1886.

Bering Sea collection: American schooner *Anne*, 182, at \$5.50; American schooner *Therese* (since sailed under British flag), 2,000, at \$6.50; American schooner *Sylvia Handy*, 1,700, at \$6.50; American schooner *City of San Diego*, 1,600, at \$6.50; American schooner *Helen Blum*, no record. The British schooners *Onward*, *Caroline*, and *Thornton* were seized in the Bering with about 2,000 skins on board.

The *Caroline*, though under the British flag, was owned one-half by an American named Bechtel, who furnished also the money for the outfit. Bechtel is interested also in the British schooners *Mary Taylor*, *Pathfinder*, and *Viva*.

The ships were put under the British flag in defiance of the British merchant shipping act, which forbids any partnerships or beneficial interest in any British ship by a foreigner. To secure himself in case of trouble Bechtel has mortgages on the schooners. The *Thornton* was owned half by J. Boscowitz, an American, who owned and now owns all or part of every schooner registered under the British flag in the name of Capt. Warren. This fact came out a short time ago in a lawsuit in Victoria between Warren and Boscowitz. The books of the firm being produced, it was shown that Boscowitz not only owned and shared a half interest, but had advanced moneys for Capt. Warren's share, on which he collected interest. I append a duly certified copy of part of the evidence in the suit of Warren v. Boscowitz and Cooper, copied from the archives of the court in Victoria and fully certified to by Harvey Coombe, esq., deputy registrar of the supreme court of British Columbia, over the great seal of the Dominion of Canada.

Besides the 2,000 skins taken by the seized sealers, the collections in the Bering Sea by British schooners were:

British schooner	<i>Dolphin</i> ,	2,200	at	\$7.00
"	" <i>Alfred Adams</i> ,	1,455	"	7.00
"	" <i>Active</i> ,	1,338	"	7.00
"	" <i>Black Diamond</i> ,	828	"	7.00
"	" <i>Pathfinder</i> ,	1,700	"	6.65
"	" <i>Sierra</i> ,	1,000	"	6.50
"	" <i>Favorite</i> ,	3,492	"	6.50
"	" <i>Anna Beck</i> ,	1,142	"	6.65
"	" <i>W. P. Sayward</i> ,	1,600	"	6.50
"	" <i>Grace</i> ,	1,700	"	6.50
"	" <i>Mary Ellen</i> ,	3,559	"	6.50
"	" <i>Penelope</i> ,	194	"	6.50
"	" <i>Mountain Chief</i> ,	630	"	6.50

The principal reason for the fluctuation in prices this year and in other years, was the disturbed condition of the London market, caused by reports of large collections, and so greatly did the catch of 25,000 skins affect the market that the skins sold for less in London than was paid for them in Victoria, British Columbia, entailing loss on the purchasers.

1887.

The seizures in the Bering Sea in 1886 stopped the American sealers from fitting out in 1887, with the exception of two schooners commanded by British Columbians, who decided to take the risk. It was openly declared at Victoria that the United States Government would not go further than remonstrate.

The American boats that entered the Bering Sea were the *City of San Diego*, which made a catch of 1,187 seals, selling at \$5.50, and the *Vanderbilt*, 1,349 skins, at \$5.50.

The catch by British sealers was:

British schooner	<i>Mary Taylor</i> ,	1,000	at	\$6.00
"	" <i>Penelope</i> ,	1,292	"	5.50
"	" <i>Pathfinder</i> ,	2,377	"	6.00
"	" <i>Mary Ellen</i> ,	2,130	"	5.50
"	" <i>Black Diamond</i> ,	990	"	5.50
"	" <i>Mountain Chief</i> ,	624	"	5.50
"	" <i>Favorite</i> ,	1,887	"	5.50
"	" <i>Therese</i> ,	900	"	5.50
"	" <i>Kate</i> ,	1,625	"	5.50
"	" <i>Triumph</i> ,	500	"	5.50
"	" <i>Lottie Fairfield</i> ,	2,507	"	5.50

The *Ada*, *Anna Beck*, *Dolphin*, *Grace*, and *W. P. Sayward* were seized by the United States Government.

1888.

Bering Sea collections, sold in Victoria in 1888:

British schooner	<i>Juanita</i> ,	1,030	at	\$5.62 $\frac{1}{2}$
"	" <i>Mary Ellen</i> ,	700	"	5.62 $\frac{1}{2}$
"	" <i>Triumph</i> ,	2,470	"	5.62 $\frac{1}{2}$
"	" <i>Annie C. Moore</i> ,	715	"	5.62 $\frac{1}{2}$
"	" <i>Black Diamond</i> ,	765	"	5.62 $\frac{1}{2}$
"	" <i>Pathfinder</i> ,	600	"	5.62 $\frac{1}{2}$
"	" <i>Viva</i> ,	2,069	"	5.62 $\frac{1}{2}$
"	" <i>Favorite</i> ,	2,349	"	5.62 $\frac{1}{2}$
"	" <i>Maggie Mc</i> ,	1,424	"	5.62 $\frac{1}{2}$
"	" <i>Penelope</i> ,	1,054	"	5.62 $\frac{1}{2}$
"	" <i>Mountain Chief</i> ,	781	"	5.62 $\frac{1}{2}$
German schooner	<i>Adele</i> ,	450	"	5.62 $\frac{1}{2}$
American schooner	<i>Anne</i> ,	1,040	"	5.62 $\frac{1}{2}$
"	" <i>Webster</i> ,	520	"	5.62 $\frac{1}{2}$
"	" <i>Olson</i> ,	500	"	5.62 $\frac{1}{2}$
"	" <i>Walter A. Rich</i> ,	400	"	5.62 $\frac{1}{2}$
"	" <i>Allie I. Alger</i> ,	380	"	5.62 $\frac{1}{2}$

1889.

Bering Sea collection, 1889, landed at Victoria, and all shipped to England and United States.

So far the average selling price at Victoria has been \$7.65.

German schooner	<i>Adele,</i>	1,600
American schooner	<i>Allie I. Alger,</i>	284
"	" <i>Newton,</i>	239
"	" <i>J. G. Swan,</i>	60
"	" <i>Henry Dennis,</i>	700
British schooner	<i>Pathfinder,</i>	50
"	" <i>Viva,</i>	2,180
"	" <i>Annie C. Moore,</i>	1,300
"	" <i>Maggie Me,</i>	1,290
"	" <i>Sapphire,</i>	1,629
"	" <i>W. P. Sayward,</i>	1,600
"	" <i>Kate,</i>	911
"	" <i>Favorite,</i>	None.
"	" <i>Penelope,</i>	1,850
"	" <i>Black Diamond,</i>	55
"	" <i>Lilly,</i>	74
"	" <i>Ariel,</i>	834
"	" <i>Minnie,</i>	521
"	" <i>Beatrice,</i>	700
"	" <i>Therese,</i>	None.
"	" <i>Mary Ellen,</i>	None.

The record of the collection, as given above, is from the custom house at Victoria, and verified by the principal purchasers. The price paid for skins came from the account books of the purchasers, and were verified by current price lists published in the London fur market.

There are 24 Victorian schooners in the trade and 32 San Francisco and Puget Sound schooners, making a total of 56 schooners. At the rate of 3,000 skins to the schooner, they would, if undisturbed, take 168,000 skins. As the seals they kill in the Bering are nearly all females either in young or having just pupped, the loss of seal life would be 336,000. To this must be added 168,000 killed and wounded seal and their pups not caught, making a total of 672,000 seal killed with the present fleet.

Both Miln's valuations and my own include the cost of the sealing outfit. The value of an outfit for sealing depends upon the size of the schooner, the number of men and boats she carries, and whether or not they are Indians. As you will see by one of the tables appended, there were this year 383 Indians and 261 white men employed on sealing schooners fitted out in Victoria, and where white men are employed the schooner carries boats of American make, has her hunters armed with rifles and shotguns, and carries all told a crew of 4 men to each hunting boat. The men are engaged in this way: The hunter who shoots the seal has 2 men in his boat to row him, making 3 men actually in the boat, and a few hands are left on board the schooner to handle her. Thus a schooner having a crew of 20 men all told would have 5 boats and 5 hunters. The cost of the outfit is, for such a schooner:

Five boats costing in San Francisco, where they are all built, \$100 each.....	\$500
Five Marling rifles, at \$35	175
Five shotguns, at \$35	175
Two extra guns	70
Salt for sealskins	200
Five thousand rounds ammunition for guns and rifles	125
Provisions for 20 men four months, at \$8 per head per month	640
Insurance, one-third of year	175

The expenses of a sealing trip in the Bering are, for a four months' cruise:

Captain, wages, at \$100.....	\$400
Ten seamen, at \$35 per month.....	1,400
Five ordinary seamen or boys, at \$20 per month.....	400
Paid to hunters, at \$2 per skin, 1,600 an actual average.....	3,200
	<hr/>
	5,400
Total expense and outfit.....	<hr/>
	7,460

As the hunters are paid by the skin, the expenses would be more if the catch was larger. The expense of a six-boat schooner would be proportionately greater as it would be if the cruise was made longer. Miln's estimate in his report to the governor-general of Canada is based on a longer cruise in a large schooner, and is no doubt a fair estimate.

Still, the actual expenses of a schooner can not be figured accurately except by the owner, who charges every item of expense against her as it is paid out, and the figures I have given only serve as an approximate guide to the average profits of a sealing trip. According to Mr. Miln's estimate, a big schooner catching 2,000 seals (an observedly high estimate) would make a profit of \$4,440 on her trip if the skins sold for \$7.50 each, and he adds that she could catch 3,000 skins if undisturbed by a United States revenue cruiser, and if she could, two things would happen—skins would drop to next to nothing in value, and there would be no seals next year.

The average market value of seal-skins taken in the water as compared with that of animals properly selected on the seal islands, either of Alaska or Siberia, is about one-third. The former are mostly pregnant cows, the fur of which is thin and poor, compared with the males, and the skins are riddled more or less with bullets and buckshot, making them practically unfit for first-class garments. *Isaac Liebes, p. 453.*

In ascertaining the value of the vessels that have been seized by the United States Government for illegal sealing in the Bering Sea I got the record of actual sales *Theo. T. Williams, p. 505.* in every case where the vessel had changed hands during the past six years. Many of the schooners were bought by their last owners at private sale, but others had been sold at auction. The seized schooners belonging to Boscowitz and Warren were all sold at auction in the year 1885, and were bought in by a party in the interest of Boscowitz for \$1 each above the lien on them. No one bid higher than that, for the excellent reason that the lien represented in every case the full value of the boat and outfit, and was given by Warren, in whose name the boats stood, to secure Boscowitz, who, being an American, could not legally own an interest in boats sailing under the British flag. I append a certified copy of the sale of these vessels at public auction in Victoria in 1885.

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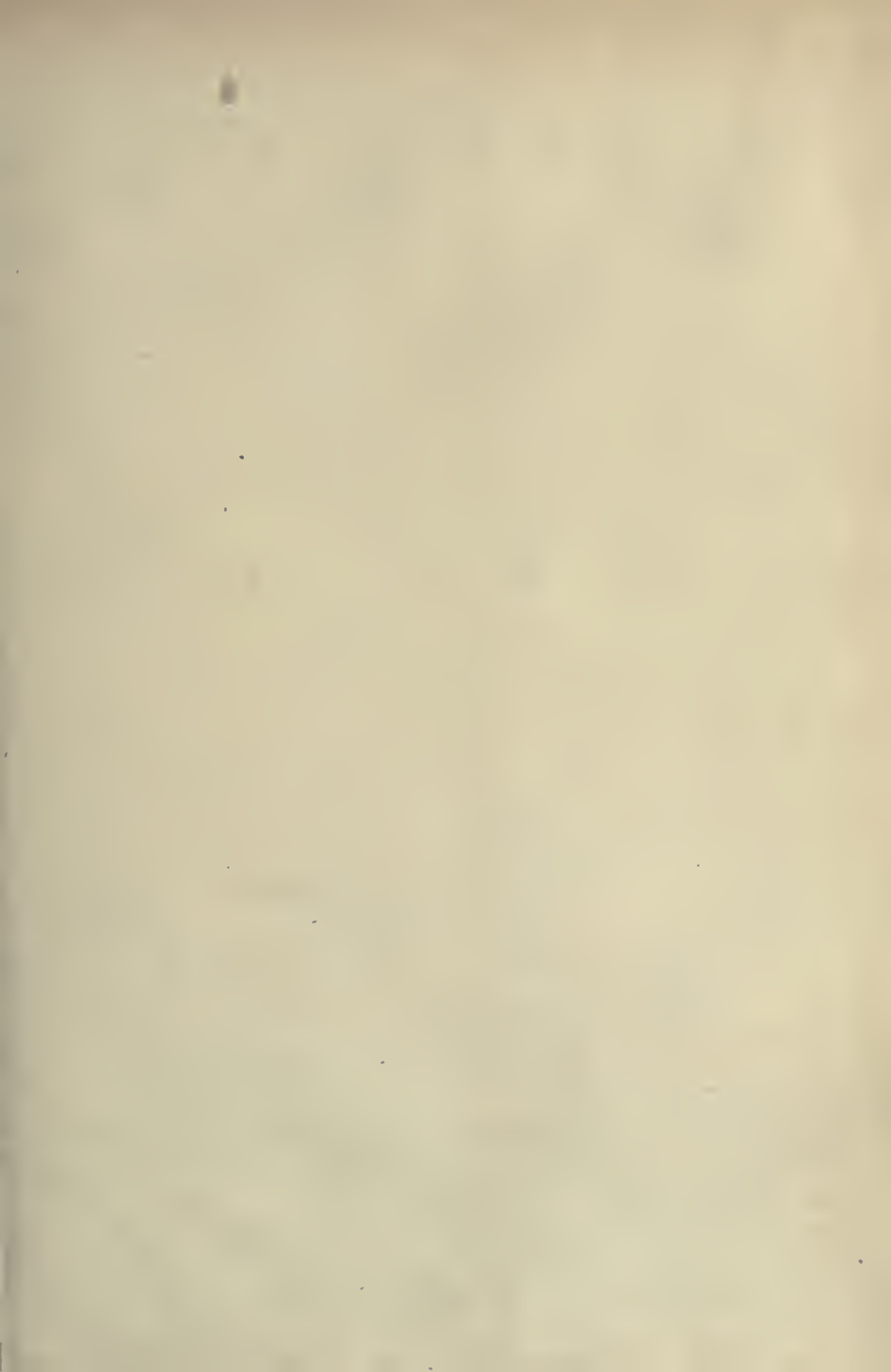
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